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**ISSUES IN THE SUPERVISION
OF CBD PROJECTS**

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ISSUES IN THE SUPERVISION OF CBD PROJECTS

I. INTRODUCTION AND APPROACH TO THE SUBJECT

A. SUPERVISION OF CBD PROJECTS WITHIN THE GENERAL CONTEXT OF MANAGEMENT

The Place of Management in CBD Projects

In recent years, as the delivery of family planning services in many parts of the world has shifted from clinic based to community based programs, increasing attention has been focused on the difficult and critical question of improving the supervision of these programs.

The current paper reviews the CBD supervisor's job and current problems and proposes recommendations for further programs and research. This paper is based primarily on literature, including unpublished articles, discussions and interviews with leading management and supervisory trainers for overseas family planning programs.

Development projects around the world have amply demonstrated the futility of merely preparing field workers to perform selected functions without directing equivalent attention to the strengthening of the supportive environment in which they work. One analysis of six projects is quoted for illustration from among many that could be cited.

"Our six case studies found, as in other development efforts around the world, that the paraprofessional's ability to perform effectively was hampered by: under-financing; excessive red tape and delays in releasing materials and funds even when they are budgeted for; difficulty in establishing reliable supply lines

to isolated, rural areas; poor coordination and cooperation among service agencies working in the same area; and ambiguity about who was responsible for what. As a result of these kinds of conditions, the paraprofessionals in a majority of the villages in our study were greatly underutilized, lacking resources, particularly knowledge, supplies and equipment to perform their jobs. Paraprofessionals commonly express a desire 'to do more for our villages' but feel thwarted in their efforts" (Colle, 19, n.d.).

Field workers trained and in place certainly provide a potential for service. By no means, however, do they ensure that the potential will be realized. The failures cited in the above example are failures of management.

The same author examines the other side of the coin in reviewing the effects of supervision in Guatemala.

"In the supervised setting, health promoters had better morale, were more active, and more likely to engage in public preventive health care projects as opposed to just providing curative medical care. Although no effort was made to measure these differences precisely, the magnitude of the differences can be suggested by the fact that it appeared that supervised health promoters were twice as active as those health promoters who were not supervised, and four times as likely to engage in public preventive health care projects. Furthermore, the consensus at INDAPS (a training center) was that the dropout rate of health promoters was two to three times higher among those health promoters who were not supervised" (Colle, 48, 1980).

More recently, Bakken (Bakken thesis) has systematically studied supervision in the Guatemala SINAPS project with qualitatively similar, though more definitive findings.

AID-supported CBD projects have likewise varied in their attention to supervision. Those in Mexico, Brazil, and Guatemala (already cited) have singled out supervision for experimental investigation. Projects in Egypt and Sudan have also provided substantial experience in the effects of supervision. In contrast, project personnel in Zaire needed considerable persuasion before becoming convinced of the need for any organized field supervision (Wawer, 1981).

Scope and Definitions of Management and Supervision

Management is clearly important to project success, but what is it? A classical Harvard Business Review model by MacKenzie (1969) includes the functions of planning, organizing, staffing, directing, and controlling under the heading of management. Frances and David Korten (3, 1977), whose particular interests have been the management of family planning programs, propose that "management is a process which involves planning, organizing, motivating, and controlling the activities of an organization for the purpose of achieving certain objectives."

Both definitions are too comprehensive and general to permit meaningful operational analysis. We have chosen, therefore, to focus on the supervision component of management. In a review of 180 primary care projects, APHA sought to identify innovative management practices that had been introduced (Karlin, 47, 1977). About one-fourth of the project respondents cited efforts to improve personnel practices, control drug supplies, and strengthen supervision. While the findings indicate that management concerns are not disregarded, they are anything but universal.

The advantage of the supervision focus can be seen from the APHA review of projects. Whereas fewer than one-fourth of them cited specific management innovations, more than half reported having formal standards and procedures for supervision (Karlin, 49, 1977). Supervision seems to be a more manageable subject with which one can readily come to grips. Our consideration of CBD project supervision will be operationally based, i.e., attention will center on the point of interaction between the field supervisor, the agent, the client, and the community.

Heegaard defines supervision as "the effort to get individuals to work cooperatively in order to use resources more effectively. It includes informing, guiding, and directing groups and individuals towards goals and objectives" (Heegaard, 55, 1975). This definition directs special attention beyond the planning and organizing functions of the MacKenzie model to the leadership functions of implementation: staffing, directing, and controlling. The specific activities listed by MacKenzie under these functions are worth noting, for they begin to identify the intended scope of this paper (MacKenzie, 1979).

Staffing (choose competent people for positions in organization)

- select
- orient
- train
- develop

Directing (bring about purposeful action toward desired objectives)

- delegate
- motivate
- coordinate
- manage differences
- manage change

Controlling (ensure progress toward objectives)

- establish reporting system
- develop performance standards
- measure results
- take corrective action
- reward

The importance of this emphasis is seen in reference to the Kortens' discussion of family planning management. After defining management as already indicated, they present four critical management tools for making things work at the grass roots level (Korten, 79-82, 1975).

1. Targets and Performance Feedback - Personnel need to assist in setting their own targets, see how their efforts can contribute to target achievement, and get feedback on where they stand.

2. Supervision - Supervisors and workers must engage in joint problem-solving.

3. Training - Managers need to recognize choices available to them, how to use data for identifying problems and appraising choices, and how choices affect the achievement of objectives.

4. Organization - Work units should foster teamwork and provide flexibility in undertaking tasks to achieve results.

All four points fall within our terms of reference for supervision. In fact they provide a useful foundation for consideration of the subject.

In setting the terms of reference, cognizance must be taken of the fact that the discussion to follow relates to varied national and cultural settings. It has been argued that management procedures and supervisory styles produce different results in these varied settings. It has even been argued that effective

management is essentially foreign to some cultures. While these arguments have certain cautionary value, the findings of experienced analysts like Frederick Herzberg are worth recalling (Herzberg, 56-57, 1968; Korten & Korten, 277, 1977). Herzberg has found repeatedly across cultures that worker dissatisfaction is related to the job environment, whereas satisfaction is related to job content. Improvement of the environment (e.g., through increased remuneration) can remove dissatisfaction, but satisfaction depends upon job enrichment through such devices as:

- increased self-accountability
- additional authority or job freedom
- periodic feedback on performance
- taking on new and more difficult tasks
- undertaking specialized tasks leading to recognized expertise
- accepting responsibility for a complete unit of work

Job enrichment is associated with the four tools of effective performance listed above and more generally with the meaning of supervision as enunciated herein.

While there is evidence that certain basic principles of supervision are universally applicable, family planning programs exhibit special characteristics that color appraisal of these principles (IFW, 56, 1975).

First, family planning organizations are among the fastest growing administered units in many countries. Accordingly, the need for trained supervisors is especially pressing in environments in which management skills are already in short supply.

Second, the character of family planning demanding both technical acumen and human relations skills imposes unique requirements for supervisory skills and relationships. Given a scarce supply of trained medical personnel,

management often demands that family planning generalists supervise technical specialists. Para-medical technicians in turn must be trained to supervise minimally prepared generalist personnel recruited into the programs.

Third, these inherently difficult supervisory relationships are further aggravated as programs cater to increasingly peripheral populations. Problems of communication in widely scattered locations inhibit supervisors from fully comprehending what remotely placed workers under their jurisdiction can do, are doing, or should be doing in the context of local problems and needs.

Finally, in the instances where workers serve as essentially volunteer representatives of the communities in which they work, traditional hierarchical supervisory relationships are no longer valid. Ways in which supervisors from the program "system" can work most effectively with community volunteers and with the community itself are not yet clearly established.

The preceding four features of family planning programs are generic. In addition, the ever-changing nature of the programs deserves attention. An insightful analysis of trends apparent in 1975 led David Korten to speculate about likely family planning management challenges for 1985 (Echeverry, 1975). Two points made are worth underscoring in light of cumulative experience with CBD projects. First, the evident trend toward integrated programs is placing a premium on improved management and supervision in order to ensure balanced attention to multiple activities and objectives. Second, the further trend to move beyond integration of health/family planning to place family planning as an integral part of general development is forcing responsibility to be decentralized to local government and community levels. As suggested earlier, we currently know little about the management of social development in those terms.

The Job of CBD Supervisors and Current Problems

The task of supervisors, classically, is to assure that their subordinates fulfill their responsibilities and meet their objectives. In CBD programs this is not easy. To start with, the job of the subordinates (the family planning workers who are responsible for recruiting, serving, and retaining acceptors) is often very difficult, since it can involve encouraging people to change some of their most intimate personal practices and beliefs, often in the midst of powerful pressures not to do so. Furthermore, this behavioral change is to be made without the kind of strong, immediate incentive that pain provides for people going from traditional to Western medical practices (Korten, 185, 1975). Finally, CBD workers are expected to do their jobs with limited education and training, and in isolation, miles away from the encouragement and support of co-workers and supervisors.

The people who are responsible for supervising these workers may be doctors, nurses, midwives, former CBD workers, bureaucrats, or even community groups (Lewis, 87, 1978). As mentioned, the supervisors are often based miles from the workers. They have many responsibilities besides the supervision of CBD workers, and they frequently have a very large number of widely scattered workers to supervise. The supervisory interface may take place at the worker's location or at the supervisor's, and it may take place a few times each month, or as rarely as once or twice per year (JHU, 5, 1981; Peng, 1979; PCDA, n.d.).

The actual supervisory activities also vary widely. Usually they consist of receiving reports from the worker and giving instruction. Some supervisors also observe the workers with acceptors, furnish supplies and/or monies, assist in community relations, discuss problems, and provide encouragement and other forms of supportive supervision (Lewis, 87, 1978). In addition to the interface with the worker, supervisory responsibilities can include recruiting workers, planning, budgeting, handling accounts, and providing in-service training (PCDA, n.d.).

In view of this situation, it is not surprising that there are often problems. Foremost among these is the problem of program objectives not being fulfilled. The numbers of people contacted and contraceptives distributed may be low. Worker absentee rates may be high, morale and activities low, and supplies inadequate (DeGuzman, 8, 1973).

The relationship between supervisors and workers is often formal and fearful, particularly when the supervisor is a professional. Visits can seem to be inspections, and problems are hidden rather than raised for discussion and resolution. Feedback on statistical reports may be lacking or limited to negative reactions. The worker is often to be disciplined rather than advised, trained, and assisted (Korten & Korten, 1977; Rogers, 107, 1973).

The roots of some of this less than ideal style of supervision, particularly resistance to staff development and haughty attitudes toward subordinates, are often found in the administrative culture of the area, particularly in countries which had been recent colonies of foreign powers. Problems so rooted are difficult to change (Morris, 74, 1977).

In summary, the effective supervision of CBD programs is confronted with a number of serious problems. The CBD task is difficult and the peripheral workers are in need of considerable support. Supervisors are too few, far away, and saddled with heavy responsibilities. Supervisory styles, sometimes rooted in a non-supportive administrative culture, often fail to provide effective motivation and control. Finally, supervision is weak in many family planning programs because it is not considered very important and is not granted adequate staffing or financial support (Wishik & Talwar, 3, 1976).

It should be noted, however, that these problems are not universal. A number of CBD programs are quite successful, have effective supervision, and

operate in an environment conducive to supportive supervision and high productivity. Information on the proportion of CBD programs that are well supervised appears to be lacking. Anecdotal evidence, however, indicates that problems in supervision are widespread, and that action is needed to strengthen supervision.

B. FUNCTIONS OF SUPERVISION

We have described in rather broad terms what we mean by supervision in the present context. The description has pointed out certain features of supervision that must be incorporated into any analysis. To make the analysis operationally relevant we must now put into a systematic format the specific functions of supervision to be dissected in the analysis. It is presumed that if these functions are performed satisfactorily, effective supervision will result. Conversely, inadequate supervision should be attributable to the breakdown of particular functions. To be useful, the functional array should permit appraisal of how and why inadequacies occur.

Views from the Literature

No single functional framework uniquely satisfies these criteria for analysis, and several possibilities are already available in the literature for consideration or adaptation. The work of MacKenzie has already been cited. Heegaard (IFW, 61-70, 1975) considers functions to be controlling, supporting or instrumental/activating. In sub-dividing these basic classifications, he contends that: "One of the critical questions to ask in analyzing family planning programs is the extent to which the controlling/steering functions are being maintained while the instrumental and supporting functions are being expanded." A University of North Carolina Workshop identified seven categories of supervisory activities arising under three main elements of supervision: (IFW, 77-78, 1975)

1. to hold subordinates accountable;
2. to help subordinates in their task performance; and
3. to help subordinates achieve the level of satisfaction and fulfillment to which they aspire.

Finally, Colle (Colle, 16, n.d.) has listed eight functions of supervision, along with possible mechanisms for carrying out each of them. The three lists are summarized in Table 1.1 for comparison.

Not surprisingly, the three lists overlap. They are far from congruent, however. Only one of the three classifications refers explicitly to the important function of target-setting. Likewise, only one refers to financial support and control. Financial considerations appear in that list under three different headings, which makes analysis difficult. More generally, none of the lists provides a truly useful rationale for purposes of operational analysis. In the following section, therefore, we develop such a rationale, underlining the key features of supervision, many of which have been alluded to already. Thus, the section further elaborates the points of concern and places them within a framework for detailed analytical discussion in succeeding portions of the paper.

A Rationale and Framework for Present Purposes

Tasks are accomplished by people using resources at their command. Supervision is needed and justified to the extent that it can enhance the effectiveness of task performance directly or indirectly through improving the availability and utilization of supportive resources.

In one sense, the functions of supervision include planning, organizing, training, motivating, directing, and controlling. These functions relate principally to personnel deployment. Considering resource allocation more broadly, we must add the functions of balancing, coordinating, and expediting.

Table 1.1

THREE PROPOSED LISTS OF SUPERVISORY FUNCTIONS

Heegaard, 67, 1975	Carolina Workshop, 78, 1975	Colle, n.d.
<u>Controlling</u>	1. Task Definition and Assignment	1. Legitimation
1. Structuring, Creative of Jobs	2. Scheduling	2. Protection of Role Integrity
2. Setting of Goals and Targets	3. Facilitating Task Performance (Training, Logistics)	3. Motivation
3. Performance Appraisal	4. Monitoring Performance	4. Technical Assistance
4. Design/Authority for Research	5. Feedback	5. Linkage
5. Progress Reporting	6. Analysis of Performance	6. Monitoring/Control
6. Staff Training	7. Corrective Measures	7. Evaluation
7. Budget Drafting		8. Education/Counseling
8. Budget Decisions		
9. Recruiting		
10. Hiring/Firing		
<u>Supporting</u>		
11. Finance and Supplies		
12. Personnel		
13. Research and Information		
14. Training		
<u>Instrumental/Activating</u>		
15. Commanding		
16. Pressuring		
17. Persuasion		
18. Promotion of Self-Activation		

To be meaningfully supportive, supervisors must operate with criteria for comparing performance with established norms, standards, and task specifications. Supervisors must be able, therefore, to identify superior performance and to assess the reasons for such performance in an effort to replicate it. They must equally be able to recognize inferior performance and means of improvement. As a consequence, while supervisory functions are well-defined, their application in practice is seldom routine. Supervisors must possess skills of problem-identification and problem-solving.

CBD programs have the additional feature that the agents supervised may be volunteers with principal attachment to their local communities, rather than to the public bureaucracy in which the supervisor is based. Thus, traditional means of accountability within the framework of hierarchical authority are replaced by indirect means of accountability through voluntary cooperation and collaboration between supervisors and agents, as well as the community organizations (formal and informal) they represent.

The functional designations cited above are for the most part verb forms. This is useful in view of the action orientation of supervision. For purposes of analysis, however, a functional array in terms of the objects of supervision is more helpful. This leads to the five functional categories outlined below.

1. Supervisor Selection and Training

In the first section we will examine the criteria for the selection of supervisors to fulfill well-defined job descriptions. Successful selection rests upon the presumption that careful attention has been paid to the task enunciation of both the supervisors' and the agents' roles during the program planning process. Job descriptions based upon the necessary professional qualifications and desired

personal characteristics can then be drawn and filled hinging on availability of human resources.

This same enunciation of tasks then forms the basis for the training of the selected supervisors. Training curriculum should be developed with the demands of the job description clearly in mind. The format, contents, methods and evaluation of training are some of the areas covered under the discussion of training.

2. Directing or Control Functions

Service objectives and standards of performance are generally set at a level above that of field supervision. Field supervisors should contribute to standard-setting, however, along with the agents and their communities. Moreover, all parties must be keenly aware of established objectives and their rationale. The appropriate balance of inputs in these regards is an essential element in the analysis of supervision.

In this section we will examine the activities that are integral to effective performance monitoring. These activities include: determination of information needs, selection of appropriate performance indicators, identification of adequate frequency of supervision and a discussion of the principles of selective supervision.

The means of achieving objectives through task specification is more directly a function of the field supervisor. He/she is also responsible for monitoring performance in order to see to it that tasks are carried out as intended and that these tasks do indeed contribute to service objectives as envisioned. Supervisory monitoring implies discipline and control as necessary. In all respects, however, it must be supportive in validating the link between tasks and service objectives, assessing the practicability of standards of performance, and upgrading agent capability for adherence to realistic standards.

Information is essential to effective decision making, and the management information system should be parsimoniously organized for purposes of facilitating the review of options, the choice of one (decision making), and the monitoring and appraisal of consequent results. Thus consideration must be given to data requirements, the processing and analysis of these data to produce meaningful rates, ratios, and other measures, and the timeliness of the entire process of data gathering, reporting, and action. Sole reliance upon quantitative information leads to distortions in understanding and judgment. Qualitative information is therefore essential, and appropriate means of portraying relevant qualitative aspects of decisions need to be established.

The Management Information System should define and distinguish the roles of different individuals in acquiring needed information, in using it for decision making, in disseminating knowledge about the decisions and their rationale, and in comparing actual results with those intended. Thus, information may be compiled at project headquarters concerning existing problems, service objectives set and transmitted to field supervisors, and service records may be maintained by agents and reports made to the field supervisors and compared to the objectives. As a result of such comparisons, the supervisor may take action to improve performance or recommendations may be forwarded for action at higher levels to modify initial objectives.

Simplified record-keeping is crucial in CBD programs that often employ semi-literate agents. Accepting this requirement, it may still be necessary for the supervisor to collect and record certain information directly, or at least to scrutinize agent records with exceptional care. Quality control of information is an important task of supervision.

3. Support Functions

Our investigation then turns to the ways in which the supervisor can provide the necessary support for the distributor within both the organization and the community.

In traditional management systems, opportunities for career development and advancement are considered to be important means of employee motivation. In CBD programs, such opportunities are limited and unclear. On the other hand, acquisition of community status and support are uniquely important. An analysis of supervision necessarily includes consideration of the balance between community support and support by the formal system, mechanisms for fostering such support, and the role of the supervisor in relation to both the agent and the community.

The upgrading of agent capability is such an important element of supervision that it deserves separate citation. It is not clearly established whether supervisors should have principal responsibility for pre-service training of agents. This may be desirable in the interests of rapport and the establishment of close working relationships between supervisor and agent. On the other hand, training requirements may be sufficiently unique to call for specialists in the subject. In any case, supervisors should participate in pre-service training. Their precise role in this endeavor is a subject for appraisal.

Whatever the outcome of this analysis, it is clear that agent upgrading through continuing education is both more important and more neglected than pre-service training. Supervisors must be prepared to provide knowledge and information where gaps appear. They must strengthen specific skills as necessary, either to reinforce those developed through pre-service training, or to accommodate unanticipated needs. Furthermore, they should promote job competence through the integration of knowledge, skills and attitudes. Finally, supervisors should serve as role models in personal and community relations.

It is obviously futile to foster the growth of knowledge and skills without ensuring simultaneously the opportunity to utilize these capabilities. Employee morale is in large part a function of the relationship between actual conditions and expectations; the two must therefore be in alignment. Retention rates are the most obvious behavioral measures of morale. These need to be supplemented, however, by surveys of attitudes and expectations, as well as by measures of existing conditions, including conditions of payment of agents, reliability of the supply system, and evidence of supervisory support, interest, and encouragement.

Throughout the process, the supervisor must be appropriately supportive of the agent in his/her relations with the community. The delicate balance between the supervisor's roles as initiator, catalyst, and reactor bears careful analysis.

4. Organizational Support Arrangements and Management

The fourth subject of enquiry concerns the organizational arrangements provided by program management to assist supervisors in performing their jobs. Just as the distributor needs the support of the supervisor to operate, the supervisor needs the cooperation and support of his/her superiors to perform effectively. This includes periodic assessment of performance, as well as determination of how much territory and how many distributors the supervisor can rationally be expected to cover.

Adequacy of the ordering, distribution, preservation, and utilization of supplies is an oft-neglected function of supervision. Other supporting services of concern are the provision of transport and the maintenance of equipment. The precise nature of these functions varies with the level of supervision, and coordination among levels is essential.

Inadequate attention to budgetary aspects of CBD programs is all too common, and those aspects that are addressed are frequently hampered by excessive centralization. There have been occasions, for example, where extensive field supervision has been mandated without provision for travel and per diem allowances for supervisors. Budgetary implications of program action must be assessed in detail, and in addition streamlined mechanisms for the actual disbursement of budgeted funds should be established. The extent to which flexible decentralization of expenditure decisions is both desirable and feasible deserves investigation as an important issue in the analysis of supervisory functions. Increased decentralization attaches correspondingly increased significance to a simple, yet effective, system of cost accounting.

Additionally, the elements that contribute to the satisfaction supervisors gain from their jobs, and consequently their retention will be considered.

5. Recommendations for Action and Research

Finally, in light of the reported experience, recommendations concerning future investigations and courses of action are made. The pressing need for improving the effectiveness of supervision is highlighted throughout this paper.

Although the developed world has accumulated volumes of experience related to management of clinic-based health care, it is clear after our search that such a body of well-researched knowledge does not exist relating to the supervision of field distributors in CBDs. Many of the problems associated with supervision of CBD projects are not unique to family planning. In a recent analysis of AID-assisted primary health care programs (PHC) it was stated that "Infrequent and poor quality supervision appears to be a common problem in the PHC programs ... and is particularly detrimental to their long-term effectiveness" (Parlato, 18, 1982). Only through research, documentation and sharing of supervisory experience can a consensus on the elements constituting effective supervision emerge.

II. SUPERVISOR SELECTION AND TRAINING

A. SELECTION OF SUPERVISORS

Ideally, criteria for the selection of supervisors should emerge from a clear specification of their intended functions and resulting job descriptions. As previously mentioned in Chapter I, the effort in Zaire to establish the basic need for supervision resulted in the clear enunciation of supervisory tasks opening the door for the development of well-defined job descriptions. This approach would help to define appropriate professional and personal pre-requisites that recruits should bring to the job, as well as to identify remaining elements that should become a part of supervisor training. It would also help to clarify the manpower pool from which supervisors should be drawn, including: (1) professional workers, such as physicians; (2) paraprofessionals, such as auxiliary nurses; or (3) lay personnel, e.g., community leaders (Colle, 14, n.d.).

Considerable attention was given to selection criteria in Mexico and an extensive list was developed. The prospective supervisors were to fulfill the following prerequisites:

- 1) nurse or auxiliary nurse
- 2) rural nursing experience
- 3) reside in same area as work
- 4) minimum age 18
- 5) female
- 6) driver's license (or be willing to learn)
- 7) able to travel
- 8) training in MCH/FP
- 9) public relations skills

Some of these criteria proved difficult to meet, such as the possession of a driver's license and the ability to travel extensively. Even though these requirements considerably slowed the recruitment process, fulfilling them was essential to program operation. However, in CBD projects the process for selecting supervisors has been generally less systematic. Frequently, the decision has been made that community agents are to be supervised from health posts, and therefore the health post workers have been designated as supervisors, regardless of their individual credentials.

Although the recommended approach has not been employed uniformly in practice, it does suggest a convenient format for describing and evaluating that experience. The next two sections, therefore, are devoted to professional and personal characteristics of supervisors. Consideration then turns to the role of the community in the process of supervisor selection. The professional and personal criteria employed, along with their assessment, are intended to identify potential leadership ability. As indicators of this potential have not been clearly defined, the important and elusive question of leadership merits attention in its own right.

Professional Qualifications

As mentioned earlier, the supervision of outreach workers has frequently been added on to the responsibilities of existing clinical personnel. However, the professional prerequisites associated with excellence in clinical performance are not necessarily indicative of excellence in supervision of outreach workers. Under such conditions there has been a tendency for clinical functions to dominate, with the result that supervision per se has been inadequate (Bailey, 1981). Health professional supervisors are likely to devote their time to activities they know best and prefer, which are clinical in nature.

This pattern has tended also to blur lines of authority. Traditionally in the Sudan, for example, much of the technical supervision has been provided by medical assistants and nurses having clinical tasks as well, whereas other health personnel have performed the principal administrative duties. While such splitting of functions is not inherently undesirable, it needs to be analyzed critically, and resulting complexities of coordination must be resolved (Wawer, 11-12, 1981). However, with the recent emphasis on continuing education as an integral part of supervisory tasks, full-time supervision is increasingly common (Golden, 4, 1981).

Regardless of whether or not supervisory tasks are combined with clinical services, CBD project supervisors are generally selected from among existing health professionals such as physicians, nurses, and social workers, or from cadres of non-professional health workers, including experienced CBD agents. Supervisors are often full-time government employees, with salary schedules and other benefits in keeping with government civil service policies. Generally, this also implies formalized credentials and qualifications, often "embedded in regulations" (Golden, 1, 1981), relevant or not, which then serve as the criteria for selection. However, civil service status has not been accorded to supervisors in all projects. In instances where it has not been present (i.e., Mexico and Thailand) there have been some negative consequences with respect to supervisor recruitment, job satisfaction and retention as further discussed in Chapter V.

Health professionals, especially physicians, have been reluctant to devote the supervision time necessary in the field. It is encouraging, therefore, to note an increasing trend toward the use of para-professionals as supervisors (Colle, 3, n.d.). There is little evidence, however, that this trend is extending to the involvement of non-professional community leaders in supervisory capacities.

The need for supervisory qualifications to include specific technical credentials in health deserves critical examination. However, the importance of practical field experience should not be denigrated. An important principle of supervision is that the supervisor should be qualified to carry out the functions of those being supervised. Moreover, the possibility of promotion on the basis of superior performance is an important consideration in potential job satisfaction that is frequently overlooked. A Working Paper of the World Bank (World Bank, 1980) has observed that "full time supervisors who are well trained but who have no field experience have tended to be ineffective," and that persons with recent experiences with similar problems have more credibility and empathy. In Colombia an effort was made to recruit the Profamilia supervisors from the ranks of previous field workers who had exhibited "superior qualities." Likewise, it was recommended in Matlab and Mexico that in the future supervisors be selected from among the field workers. Those field workers who were most capable and had shown that they could relate well to their co-workers were considered to be good potential supervisors. This is also supported by field experience in Narangwal, where lady health visitors were successfully given supervisory responsibilities, and by similar experience with rural health technicians in Guatemala.

Personal Characteristics

Place of residence, age, sex, marital status, and education have been the main personal considerations in the selection of supervisors of CBD projects. The Profamilia endeavor in Colombia has required, for example, that each field supervisor should "have lived in the municipality in which she is going to work for at least five years; be at least 20 years old; preferably be married; and have at least two years of secondary education" (Echeverry, 143, 1975). Different criteria

have been employed in other projects, however, and there is little evidence of rigorous analysis of the importance of the various criteria.

In many countries the first level supervisor has been male. This has been an assumed need because of travel requirements, both for reasons of safety and the amounts of time away from home. Males make up half the supervisors in the Matlab Project. A part of their job description was to address the men of the villages under their supervision about family planning. One noted drawback to these male supervisors was the reticence on the part of village women to speak freely during home visits by the distributor and supervisor. Some countries require that the supervisor own a motorcycle, or be able to operate one, and this requirement favors the selection of males, as was the case in Thailand.

In contrast, in Malaysia the most effective supervisors were found to be women past middle age who were well-known in the community and had had extensive personal experience in child delivery (Rogers, 1975). In some cultures it is not yet possible for a female worker to have the necessary freedom of movement, but a pilot project in the Philippines considered the use of mopeds and female staff. In the Mexico New Strategies female supervisors used rented jeeps for transport. In spite of problems caused by poor maintenance of the vehicles on the part of the rental agency, and the need to upgrade the driving skills of many of the supervisors, in the final analysis these women "...proved they could visit more communities and stay longer hours because of the vehicles" (CPFH, 129, 1981). The rural health technician group in Guatemala includes both sexes; future data review regarding the relationship between gender and performance could be informative.

The need for supervisors to teach, check stock records, and file reports has led to the requirement of literacy at least (especially with agents often illiterate), and in some cases completion of several years of secondary school. In

general, however, the level of education of the supervisor is more a reflection of educational and employment patterns in the area than of specific job requirements.

Requirements regarding age, marital status, and number of children also vary by culture. In Mexico, there were more acceptors per month per agent when their supervisors were at least 25 years of age, married, and with children. Yet the majority of field supervisors were single, due primarily to recruitment difficulties (Azcona, 1980). Though it can be assumed that supervisors tend to be older than the community-based worker, particularly since previous experience in that role is preferred, countries with large numbers of secondary school leavers will have a large potential labor force of young men and women who might be good candidates for supervisory roles in CBD projects. What effects this age differential might have on the supervisor/distributor relationship is an interesting area for further study.

The paucity of analysis of personal characteristics, coupled with socio-cultural variability, make generalizations difficult and not especially rewarding. Criteria based upon local judgments appear to be the norm. Excessively arbitrary judgments can be dangerous, however, if they result in exclusion of certain categories of personnel who possess professional or leadership qualities that contribute significantly to effective supervision.

Role of the Community

Knowledge of the community served and rapport with its residents have been cited among the criteria for supervisor selection. Generally, however, the community aspect has been at best a secondary consideration. Moreover, there is little written about the role of community members in the selection process itself, other than selection of agents. An exception was found in Nigeria where persons

successfully passing a pretest were interviewed by a committee of hospital staff and community representatives prior to selection for employment. It would be possible to cite other cases of consultation with the community, but such informal involvement is the exception and formal involvement of the community is essentially non-existent.

Leadership Ability

Undergirding both professional and personal qualifications of supervisors are the extremely important, though less tangible qualities of leadership. Some projects have utilized pre-test instruments and procedures for individuals who otherwise meet established pre-requisites for supervisory positions. There is little evidence of the validity of these instruments, however. Either they have been untested or their correlation with subsequent performance has been poor.

Research and evaluation relating both specific skills and valid measures of leadership ability to supervisory performance are sorely needed in relation to the selection of candidates for supervisory positions, as current methods for determining leadership ability are generally inadequate. Especially needed are indicators of leadership potential and means of developing that potential through pre-service and in-service training. Leadership ability is difficult to identify through a screening process but presumably identification is more feasible for workers already in the field.

This presentation of experiences in the selection of supervisors provides a review of initial qualifications. These qualifications can then be matched against supervisory functions (prescribed by individual programs) providing the groundwork for necessary training.

B. TRAINING FOR SUPERVISION

Overview of the Current Status

In a study of administrative concerns among ninety family planning personnel in six countries, inadequate training of the limited number of managers in place was among the ten most frequently cited shortcomings (Summerskill, 5, 1971). In view of the immense magnitude of the supervisory task and the limited resources available to carry it out, it is distressing that so little importance is sometimes attached to the improved utilization of this scarce resource. Pre-service training of supervisors is often given little more than passing attention in project planning, and the continuing education of supervisory personnel is sometimes overlooked altogether.

A WHO Working Group on Training for Supervision underscored the issue in 1973 and called for a number of WHO initiatives as follows (Petrich, 1981; WHO, 9, 1973).

1. An outline of the essentials for a training program in supervision should be developed by WHO.
2. The provision of continuing education in supervision should be a recognized function of health services management.
3. Appropriate locations for training should be identified where the greatest number of trainees are able to congregate without sacrificing entirely the realistic and practical aspects of learning.
4. WHO should undertake the task of compiling information on training for supervision.
5. WHO should assist in providing mobile teaching-consulting teams which can assist training institutions in organizing courses in supervision.

Although these recommendations emerged from concerns about the supervision of health services, they are applicable to family planning as well.

In another workshop held in 1975 by the Carolina Population Center and devoted specifically to family planning, it was noted (IFW, 80-81, 1975):

"Supervisory training in the population field has received very little organized, systematic, and sustained attention. The limited training activity which does exist, tends to be episodic and fragmented."

The workshop then established priorities for action to correct this:

1. Preparation of a manual on various problem-solving and experiential training methods.
2. Organization of a series of faculty training courses in the use of various teaching methods and in the development of various types of training materials.
3. Preparation of a series of training packages, one for each category of supervision.
4. Increase in the number of case studies on family planning and adaptation of available cases from other fields.

In spite of the consensus evident in the two sets of recommendations, implementation has been spotty, and the problem of supervisory training remains a challenge in relation to CBD activities. A number of AID operations research projects [e.g., in Brazil (Heiby, 1981) and Mexico (Maguire, 1981)] have paid substantial attention to problems found in training supervisors.

Experience provided by the Mexican New Strategies project illustrates some of the problems that can result as a consequence of inadequate preparation for supervisory training. The module supervisors in the rural area, all nurses, were

provided with two to three weeks of training. The curriculum included material concerning maternal and child health, family planning, administration, supervision, promotion and evaluation. Additional in-service training was conducted during the monthly meetings of supervisors held at state headquarters. The urban supervisors received no formal training. Their training was "in-service and continuous" (CPFH, 1981).

In general the supervisors themselves felt that their training had been inadequate in certain areas--particularly in that of technical skills. Because they were nurses it was assumed that they came to the program with a firmer grasp of how contraceptive methods functioned and knowledge of pregnancy and birth than they in fact did. This gap proved to be a drawback, as these supervisors did not always feel at ease in their role as contraceptive promoters and trainers, or in dealing with the community agents, many of whom were traditional midwives.

In both the urban and the rural segments the in-service training of agents was almost exclusively the responsibility of the module supervisor. However, relatively little emphasis was placed during their course work on the use of teaching methods or training materials.

Among the conclusions stated in the final report of the New Strategies project are:

--Assumptions can not be made regarding the pre-existing knowledge of supervisors.

--Supervisors' training must provide hands-on experience with the tasks that they are to train and supervise others to do.

In the Sudan Community Based Family Planning Health Project the village midwives are supervised by health visitors. The curricula for the health visitor training was in part a condensation of the core curriculum specifically prepared for

the midwives. In addition the health visitors along with the village health station personnel received "...special instruction in such areas as recognition of the signs of dehydration, and contraceptive pill use side effects" (Matthews, 1980). The health visitors had an additional component specifically concerned with supervision. Originally health visitor training was planned for a duration of one week but was extended to two weeks to allow more thorough treatment of the supervision and record-keeping aspects (Lauro, 1980). Particularly during the early months of the project, supplementary on-the-job training was provided to the health visitors by their supervisors.

First-level supervision in Guatemala's SINAPS program is provided by rural health technicians (TSR). All have been initially trained for two years at the Institute de Adiestramiento de Personal de Salud (INDAPS). The aim of the training program is to produce broadly trained public health workers. Within the program the TSRs spend a five-month period of intensive training in a rural setting (Bakken, 35, 1981). In addition, one of the project's specific objectives is the in-service training of health personnel. This includes not only the field agents (PSRs) but the TSRs as well. This in-service training of TSRs is held once a week by the District Chief with the help of a social worker. Principal emphasis is placed on the subject that the TSR will be responsible for imparting to the PSRs he will be instructing the following week (deLeon, Lechtig, 1980).

The argument is made, sometimes tacitly, that because supervision is largely an exercise in problem-solving, it has unique, localized characteristics that are not readily captured in formalized training modules such as those employed in the competency-based training of distributors. On the other hand, the assignment of well-defined functions (as mentioned earlier) to supervisors should encourage the development of clearly defined procedures for carrying out these functions.

Effective monitoring of worker performance, for example, is a central feature of supervision subject to the application of highly refined decision rules. Training in the maintenance and interpretation of records, therefore, can be quite specific. Moreover, as a guiding principle of management, the supervisor should be competent to perform any of the tasks of personnel under his direction. This enables the supervisor to perform critical task evaluation and is fundamental to providing successful continuing education to his/her staff (Colle, 5,9, n.d.).

Having provided an overview of the importance, viability, and general inadequacy of supervisor training, we proceed to a more focused discussion of the role of that training. This is followed by detailed consideration of its features.

The Role of Supervisor Training

Frequently in the past, supervision training for CBD and other family planning programs has been little more than a brief introduction to supervision as part of a broader orientation to program goals (Wishik, et al., 4, 1973). Management training for higher level family planning officials has been more common. A case study of the CBFPS project in Thailand (Burintratikul & Samaniego, 49, 1978) reported, for example:

"For district supervisors, no particular formal training session is undertaken apart from on-the-job training. Even though a monthly regional meeting among them is held, it is designed for other purposes, such as income collection and getting advice from the field operations staff for their operational problems. With the currently insufficient number of field operations personnel to oversee the district supervisors' performance, more training effort is needed to ensure effectiveness and efficiency of supervision."

In contrast, the same study indicates (Burintratikul & Samaniego, 51, 1978):

"In an attempt to enhance the staff's knowledge and to promote management development, an in-house training program on 'Principles of Management' was conducted for all unit and division heads. Key management staff were also sent to attend some other training seminars on an individual basis."

Higher level training, usually for managers from several family planning organizations simultaneously, has been provided in the U.S. or in regional training centers by a number of universities, management institutions, and family planning organizations. To illustrate, the University of the Philippines College of Public Administration has emphasized three aspects of management training in its course of studies: (1) program development; (2) program management; and (3) the family planning administrator (Guzman & Ibay, 47, 1975).

Management training has been integrated with management improvement for family planning by INCAE in Central America and the Administrative Staff College in India (Bergthold, 1974; Rao, 1976). Columbia University has integrated supervisory and technical training for a family planning program in Nigeria, and SiNAPS has integrated supervisory training and management improvement for CBD family planning and primary health care on a major scale (Terborgh, 1980; Jain, et al., 1975; Blaise, 1976).

Management and supervisory training is widely considered to be valuable in the long term and to the individuals trained. However, it is not always considered effective in improving the management of organizations (Romani, 35, 1976; Lynton & Pareek, 1967). Family planning managers, in particular, are not convinced that management guidance and management training can be of

substantial help in performance and goal achievement (Blaise, 1976). Training has even been found at times to have had a negative impact, particularly as it can provide a false sense of confidence and can provide a "lingo" without a corresponding understanding and enriched competence (Jain, 263, 1972). Particularly ineffective in improving organizational effectiveness, it seems, are training programs for individuals, rather than for teams or organizations, since these programs do not change the administrative environment, which is often the key element in management and supervisory effectiveness (Moris, 1977). It should be remembered that the competency and effectiveness of supervisors are only partially reflections of their training. The supervisors' inherent abilities are also involved, as well as the administrative environment in which the supervisors work, the support they receive, and the role models they have had.

There appears to be a consensus emerging that management of supervisory training should be part and parcel of a broader management improvement effort, if it is expected to be effective in improving the administration of an organization (CPFH, 1978; Bergthold, 1978). Such an integrated effort involves:

- the identification of supervisory problems;
- the development and implementation of activities, including training, and/or organizational, staffing, and procedural changes for resolving the problems;
- the evaluation of results; and
- appropriate follow-up.

Such efforts can be carried out "in-house" or with the assistance of outside consultants and trainers. Guidelines for developing supervisor training as an integrated element in a management improvement program follow.

Guidelines for Supervisor Training

1. Format

Training of supervisors can be accomplished through formal pre-service activities and/or in-service activities. This selection may be predicated on the supervisor's pre-existing level of training and orientation to the system at hand. Another factor, as illustrated by the Mexican New Strategies Program, may be their location in either urban or rural areas. Whereas urban supervisors have easier access to continuous in-service training, the location of their rural counterparts may dictate a more formal concentrated form of training. As we see demonstration programs grow into national programs we may very well see more than one "appropriate" form of supervisor training even within the same program.

Content can be focused primarily on supervisory skills or be combined with further technical training. In programs such as Thailand and Nicaragua, supervisors have attended training sessions principally designed for agents. While this attendance can serve as a useful adjunct in cementing supervisor/agent relationships and refreshing or teaching technical skills, they cannot be considered a substitute for developing important supervisory skills.

Training can be handled formally or informally in meetings or in one to one sessions between the supervisor and the manager. The latter approach can readily relate the training to immediate and pressing problems, but requires highly competent managers. Most of the following guidelines apply most appropriately to formal training sessions, but many have relevance for informal training activities. The format and depth of the training will reflect the financial and human resources available and the pre-existing skills of the trainees.

2. Purpose

The principal objectives of the training are to improve the individual's and organization's effectiveness. In general, this is done by strengthening the individual's commitment, knowledge, skills, and attitudes; refining his perception of the supervisor's role; and enhancing his knowledge of and ability to deal with the organizational and political environment (Bergthold, 1978). It also involves team building and creating a critical mass of people committed to improving the management and effectiveness of the organization (Rizzo, 1980). The specific objectives of in-service training should relate to the priority weaknesses and problems in the organization. While these statements of purpose are so obvious as to appear trite, the fact is that the consequent need for clear job descriptions for supervisors and for close coordination between service requirements, career development and training have been largely overlooked in many projects (Colle, 16-17, n.d.; Hornby, et al., 235-236, 1980).

3. The Participants

Since the objectives will most likely involve the management environment in which the supervisors work, as well as involving the supervisors themselves, the program should involve the supervisors' superiors. This involvement can be in the design of the training program and training materials, and/or as participants in the training, either separately, or with the supervisors being trained. For team building purposes, it is best if several supervisors from the same organization participate together in the program. There should be enough people from the organization so that a critical mass of like thinking individuals is formed.

Participation in in-service training programs is often viewed as a reward to be enjoyed but not taken seriously. Or, sometimes people are sent because the

organization can do without them during the training period. Participants should be selected for their ability to help in the upgrading of performance.

4. Characteristics of the Training

The training should be consistent with the principles of adult learning and designed to meet the established objectives (Youker, 1977; Sohn, 1978). Therefore, the training should be relevant to and desired by the trainees and their organization, oriented toward working with the problems of the organization, practical, participatory, competency based (including remedial work as appropriate to assure that the participant has fulfilled the course objectives), adapted to the local culture and work situation, and, very importantly, integrated into the work situation (Petrich, 2, 1981; Terbough, 1980; Curlin, Lea, Kennedy & Orosio, n.d.). Specifically, an issue is identified as a program weakness. Program management agrees on the importance of the issue and a strategy, including training for resolving it. The training focuses on the issue. Shortly after the training, the supervisor applies what he has learned and reports on his activities to management. Modifications are then made until the problem is resolved. The training is thus in conjunction with other activities, and the whole process is then evaluated (Munch, et al., 1980).

5. Content

The content of supervisor training grows out of defined functions and a job description adapted to local conditions and problems. The aforementioned workshop on supervisory training identified six subject areas to be covered (IFW, 79, 1975):

1. concepts of supervision and determining factors;
2. supervisory tasks;

3. methods and techniques associated with each supervisory task;
4. social skills associated with task performance;
5. supervisory styles, their impact on subordinates and organizational performance, and factors influencing these styles; and
6. strategies for developing an effective supervisory system, and factors influencing these strategies.

The list of subject areas provides a useful guideline as a point of departure for curriculum development, but, of course, the actual training materials must be highly specific and practical. Self-teaching materials and training modules can provide the necessary specificity and still permit flexibility in curriculum design (Maguire, 1981).

For personnel with no previous supervisory training the content can be relatively standard, whereas experienced supervisors will need material more tailored to individual needs. One strategy that has been successfully employed as one part of the training process calls upon supervisor trainees to describe their jobs in detail and then to list the specific information they need for decision making (IFW, 90, 1975). This exercise not only helps to define the content of subsequent training, but also ensures trainee recognition of its relevance.

More detailed standard lists of topics for training have been developed (e.g., IFW, 71-74, 1975). The lists are not entirely congruent, and none are universally applicable. Nonetheless, the structure summarized in Figure 2.1 seems generally appropriate.

6. Teaching Methods and Materials

These are determined by the specific objectives. For most programs, a mixture of small group exercises, readings, lectures, case studies, role plays, and simulations, with the emphasis on participative methods, is appropriate (Bhatia,

1981; Wang, 1981; Vella, 1979). Again, the more relevant the material, the better, and exposure to applicable examples of what has and has not worked in programs similar to the participant's is appropriate. Ideally, many of the training materials are based on actual events in programs similar to the ones in which the participants work.

The approach developed by the University of Hawaii's Health Manpower Development staff (HMDS, 1981) to train middle level health workers to provide training and supervision in primary health care is a useful mode to consider. The prototype training materials in such areas as diseases of infants and children, labor and delivery and child spacing are divided into modules. Each module consists of four basic components:

1.) Module (Student) Text

- . student guides
- . written narratives
- . text visuals
- . review questions
- . protocols
- . evaluation forms

2.) Instructor's Manual

- . task analysis tables
- . training schedules
- . teaching plans
- . pre-test, post-test, and review questions
- . audio-visual materials

3.) Evaluation Materials

- . pre-tests and post-tests
- . performance checklists

4.) Adaptation Aids

- . drug and equipment lists
- . alternative audio-visual materials
- . articles and references supporting content of module

(HMDS, 21-22, 1981)

The provision of such formalized self-instructional materials complete with built in evaluation materials assures some measure of standardization and accountability on the part of both supervisory students and their instructors. Obviously, for such packaged modules to be of use, careful attention must be paid not only to the adaptation guides, but also to the process of translation when necessary.

7. Length of Training

The length of the training depends on the present knowledge and skills of the supervisors to be trained, the objectives of the course, and the funds, trainer time, and trainee time available. A course such as that illustrated in Figure 2.1 on the standard supervisory tasks can be covered adequately in five to eight days of classroom work; inclusion of all of the optional elements in this figure would extend the course to ten to twelve days of classroom work.

Courses can be conducted all at once, or spread out over a period of time, starting with a two or three day introduction, and continuing a day (or half a day) at a time. Much depends on the ease of getting supervisors and their trainers together. The ideal would be a situation in which supervisors get together regularly for meetings, e.g., once or twice a month such as in the Guatemala SINAPS program or Matlab in Bangladesh. Half a day could be spent at each gathering on training related to issues facing the organization, but within a framework that would insure that all of the key areas of supervision of CBD programs are covered within a reasonable length of time.

Figure 2.1

COMPONENTS OF A BASIC SUPERVISORY TRAINING PROGRAM FOR SUPERVISORS
WITH SOME SUPERVISORY EXPERIENCE
BUT LITTLE OR NO FORMAL PREVIOUS TRAINING IN SUPERVISION
(Mackenzie, 1969; McMahon, et al., 1980)

Standard Supervisory Tasks

Planning	Set objectives and standards and how they will be met.
Delegation	Assign responsibility and accountability for results.
Motivation	Persuade people to take desired action.
Support	Advise and assist, based on sensitivity to subordinate's needs.
Coordinate	Relate efforts in the best combination.
Problem Solving and Decision Making	Decide independently and with fellow workers.
Scheduling	Determines who does what and when.
Manage Change	Stimulate creativity and innovation in achieving goals.
Monitor Performance	Obtain key information.
Communication	Perceive and impart ideas and emotions.
Evaluation	Measure organizational and individual performance.

Optional Tasks Depending on the Particular Responsibilities of the Supervisor

Training	Make proficient by instruction and practice.
Recruitment	Select people likely to be effective.
Organizing	Arrange work for efficient accomplishment of objectives.
Inventory Control	Maintain adequate stores.
Accounts	Assure adequate funding and cash on hand.
Maintenance	Keep facilities, equipment, and transportation in good order.
Community Relations	Enhance the workers' effectiveness in the community.

8. Model Curriculum

While recognizing that the details of a curriculum have to be decided on site, there are sufficient similarities among basic supervisory training programs to permit the outlining of a model curriculum (see Figure 2.2). This model is simply a framework to be changed as required.

The course would be preceded by the development of a supervisory improvement program and by decisions on what the most important topics would be and who should participate in and lead the different sessions. The sessions would be tied to activities of the organization, with assignments in the course relating to work activities, and work assignments related to course activities.

9. Trainers

Ideally, the trainers should be in-house, and either have an ongoing affiliation with the program or have considerable experience with that program or with one very similar to it. The trainer should preferably be a national, from a similar country, or well experienced with the country. The training, for financial and pedagogical reasons, should take place locally. Frequently the most effective trainer, particularly for informal training, is a person who has training skills and serves as a manager in the same organization.

10. Evaluation

The supervisor training and the management improvement programs need to be evaluated to determine the value and cost-effectiveness of the programs and to identify means for improving them. Elements of the training should be tested for validity (accuracy and relevance), quality (measured by participant opinions), and effectiveness (pretests vs. post-tests at the end of the sessions and a few months afterwards). The effectiveness of the management improvement effort can

Figure 2.2

PROPOSED CURRICULUM FOR SUPERVISORS WHO HAVE LITTLE OR NO PREVIOUS SUPERVISORY TRAINING AND WHO ARE ALL FROM THE SAME ORGANIZATION

The organization is to decide the role, if any, of the manager in the training program.

<u>Topics</u>	<u>Methods and Materials</u>	<u>Class Hours</u>
Introduction; what is supervision, what is management	Structured discussion, <u>On Being in Charge</u> (OBIC); note on supportive supervision	2-4
Planning I	Objective setting exercise (individual); reading on setting objectives	2-4
Motivation	Discussion: How to motivate workers Exercise: adapting Maslow, Hertzberg, etc. Exercise: creating motivational environment	6-8
Problem Solving I	Develop case study through discussion, listing key problems; note on problem identification and resolution	4-6
Supportive Supervision	Case study/role play	4
Organization, Delegation	Presentation and discussion on different patterns of organization; develop job description, role play, discuss	2-4
Styles of Leadership	Caselets	3-6
Communication	OBIC, Rogers et al.; discussion of previous role plays	2-4
Problem Solving and Planning II	Team exercise(s) on problems in the organization	8
Time and Selective Supervision	Wishik, "Selective Supervision;" adopt OBIC Exercise before and after readings. Current schedule, revision, discussion.	4
Staff Development and Performance Appraisal	Lecture (Delmat) Development based on need Role play, CBD worker manual	3
Selection of Staff	Lecture/discussion on the process. Group exercise: criteria, revised process	3
Community Involvement	Reports, discussion, and plans	3-6
Change	Caselets, World Bank: Implementing Change	6
Information System	Guidelines, discussion, revision of system	2-6
Logistics	Review of the local process	1-4
Accounts	Review of the local process	<u>1-4</u>

Minimum of 60

be measured in terms of program improvement, but with care taken to recognize the role of such "intervening variables" as changes in staffing, availability of funds, and saturation of coverage areas. The use of "control" groups (CBD activities not subjected to management improvement efforts) can help in recognizing the effects of intervening variables.

11. The Role of Foreign Assistance

Since management improvement is a long-term process, often taking several years to have an impact on an organization's performance (Rizzo & Davidson, 1980), the focus needs to be on developing local capabilities over a period of time. Collaborative agreements between local universities and management institutions with their foreign counterparts have proven to be effective. The local institutions can then provide ongoing assistance in management improvement activities, and in training in-house management specialists and trainers.

12. Constraints, and How to Use the Guidelines

A number of the approaches suggested by these guidelines require considerable resources in terms of time, skilled manpower, and money. Most CBD programs have limited resources in these areas. Consequently, the guidelines should be seen as objectives toward which to strive and not as ironclad rules. The most important elements of the guidelines involve the relation of supervisor training to the key problems being faced by the organization. This is applicable even if the training is informal and the training is provided by the supervisor's superior. The key ingredients are the determination by the manager and the organization to resolve their problems by persistently working at them. This resource is one most organizations can afford.

Recommendations for Training Activities and Research

As noted, there is a pressing need for improving the effectiveness of CBD management and supervision. Training by itself is unlikely to have a significant impact. What is needed is an increased focus and priority on management and supervision, with greater financial and manpower commitment, training, changes in organizational structure, and/or revised procedures. Unfortunately, there are no effective shortcuts, and each program will have to identify its own problems, its priorities, and approaches. Training programs too have to be developed to meet the needs of particular organizations.

There are, however, steps that should be taken on a broader basis to expedite the establishment of supervisor training programs, and to increase their effectiveness.

Training Activities and Materials

--Implement and test the proposed model curriculum.

--Compile, in an easily accessible form, reports on CBD supervisory structures and activities that have worked.

--Develop and make available uncopyrighted, adaptable, or low cost manuals on basic principles and supervisor practices for CBD programs.

--Develop training modules on basic supervisor skills that have proven effective for CBD work (Huffman, 1981).

--Train CBD managers on how to develop the skills of their supervisors.

Research

--Conduct studies and controlled experiments on the supervision of CBD programs, focusing on supervisory styles and the effectiveness of western supervisory principles in the third world and in the CBD management environment (Rizzo & Davidson, 1980).

--Monitor basic indices of supervision, such as supervisor/worker ratios and supervisor/worker contacts per year correlated to program performance.

--Conduct studies and controlled experiments regarding supervision improvement and supervisory training for CBD programs.

--Monitor supervisor and management training activities for CBD programs and incorporate questions on supervision and supervisor training into AID evaluation report formats.

III. DIRECTING OF CONTROL FUNCTIONS

A. PERFORMANCE MONITORING

Perspective

The monitoring of activities in order to maintain or improve performance is central to all aspects of supervision. In this section the subject is given critical, focused attention relative to the collection, processing, and use of information, especially quantitative data, concerning individual worker activities and outputs intended to achieve program targets and objectives.

A recent WHO manual on supervision states:

"Monitoring means watching the progress and standards of the work in a programme. Monitoring is done by supervisory visits using a check-list. It is also done by interviews, discussions and by studying records and reports. A programme may be redirected as a result of monitored information" (McMahon, Barton & Piot, 323, 1980).

The key words in the definition are "watching," "standards," and "work." Monitoring presupposes a clear definition of program objectives and targets as standards against which to make comparative judgments. Failure to meet these standards may result in intensified efforts to achieve them, or in the re-setting of standards to more realistic levels. The implication is that monitoring must assess collective achievement and individual variability. If targets are uniformly unmet, one might suspect that the targets themselves or the overall strategy for achieving them is faulty. On the other hand, if certain individuals are performing up to standard, whereas others are not, the issue is determination of the causes of this variability.

Given certain standards of performance, how do supervisors go about "watching" the progress of achievement? Response to this question requires consideration of field management information systems, including sources of data; frequency of collection and compilation; and construction, reporting, and interpretation of indicators.

Standard-setting and the monitoring, or "watching," of progress are operationally meaningful only in relation to appropriate measures of "work," i.e., performance. Wishik (Wishik & Talwar, 1976) has identified the following four measures of performance in family planning programs:

- "volume of activity (e.g., number of home visits made);
- amount of client response (e.g., number of new acceptors);
- program policy on content emphasis (e.g., number of intrauterine devices inserted);
- program policy on procedural routines (e.g., number of revisits per year)."

For monitoring purposes it is perhaps more useful to clarify and re-structure the categories in terms of counts of individual activities and procedures carried out as well as resulting outputs (if not outcomes or impact). Moreover, measures of performance should provide adequate levels of qualitative insight with respect to numbers and types of clients reached and the composite balance of activities and outputs.

To provide a concrete framework for appraising performance monitoring in practice from the above perspective, we cite Mechai's description of the monitoring process in CBFPS, Thailand, a project that typifies those giving serious attention to monitoring:

"Once the local supervisor has visited all distributors in his district with an average area of 1,000 sq. km., his reports are brought with him to a central point in the four field offices of the country where a monthly supervisors meeting is held. The monthly supervisors meeting lasts one day ...

"The meeting is conducted by middle level and junior management field operations staff--each responsible for 5 to 10 districts. Suggestions are made as to necessary improvements, including the selection of new persons to replace non-productive distributors. The supervisors also up-date their districts' graphs which clearly indicate any decrease or decline in performance. In the supervisor's monitoring logbook each village distributor's output is clearly indicated in colour accompanied by the number of acceptors recruited. This keeps the supervisors aware of the situation and the need to constantly improve their performance" (Mechai, 1979).

The overall monitoring process includes a number of elements worthy of closer scrutiny. An important aim of this examination is to derive systematic procedures and decision rules based upon objective, quantified measures for appraisal. It is essential, however, that this aim be pursued within the context of supportive supervision. The supervisor must be viewed more as a consultant in problem-solving than as an inspector (Echeverry, 1975; Kumar & Misra, 61, 1979).

Principles and Guidelines

The importance of explicit program objectives, coupled with clear lines of responsibility and authority, has been stressed repeatedly. Monitoring of progress

toward these objectives requires specification of performance targets and time-phased activities that are logically linked to the final objectives. Designation of such progress markers is useful in itself in highlighting for workers what is deemed important and expected of them (Colle, 8, n.d.). For example:

"In one program outreach workers were asked to submit, on a monthly basis, six pieces of information. Of these, five were on the subject of recruitment of participants and the remaining one was related to follow-up activities. Therefore, in spite of the rhetoric of the program which stated that follow-up was as important as recruitment, the message which the outreach workers received--from the more visible activities--was that they would be judged on their ability to recruit, and therefore recruitment was far more important" (IFW, 95, 1975).

In addition to serving as explicit, logically linked progress markers, the information should be organized as a basis for analysis and action (Chang, 1972). Data should be relevant to decisions to be made, and their presentation should facilitate interpretable feedback on performance that is subject to control and improvement (Korten & Korten, 83-90, 1977). This means that crude counts of activities are seldom adequate; rather, data need to be combined to form comparable rates and ratios. When the reporting system in Mexico produced many problem diagnoses but few solutions, the system was modified to require indication of both problems diagnosed and consequent actions taken (Shedlin, 1981).

Considering the role of information systems in improved decision making, it is striking that "management information systems are usually developed by management information system specialists and almost never by the manager" (IFW, 94, 1975). As a result, the gathering and reporting of information is

frequently considered by managers to be an irrelevant burden, while the statistician analysts tend to view the information system as an end in itself. More appropriately, the supervisors themselves should be intimately involved in the critical appraisal of likely decisions to be made, alternative courses of action, and information required to assess the alternatives. Thus, they would establish information system specifications, and the statisticians would act as consultants in the selection of appropriate indicators, development of processing and reporting mechanisms, and other technical aspects of implementation. In Sudan's Community Based Family Health Project not only the supervisors but the agents as well "proved to be the most valuable resource" in regard to the development of the record forms to be used. Their development became part of the initial training process (Lauro, 1980).

The foregoing considerations highlight the need, often neglected, for supervisor training in the interpretation and use of data. The statistician can play a useful role in this, both in relation to pre-service training and in continuing education on the use of forms and the application of decision rules (Saulniers, 1978).

Korten and Korten (Korten & Korten, 83-84, 1977) have summarized succinctly the steps to be taken in transforming the data system (the statistics on a program's operation, furnished by field workers) into a powerful management tool for performance monitoring.

"First, one or more measurable indices of the output of program operations must be specified which adequately reflect program purpose.

"Second, the data collected must be relevant to the decisions that people within the organization make about program operations.

"Third, the data must be presented in a way that gives personnel at all levels clear, timely, and easily interpretable feedback on the aspects of their performance over which they have some control.

"Fourth, the management systems and procedures must be designed to support efforts to use the data to improve performance, and must include the provision of training in the interpretation and use of data."

The above points are necessary, but not sufficient, conditions for the effective use of data. To encourage use of data (reports) to improve individual effectiveness, Korten and Korten (89-90, 1977) point out:

"First, there must be clear lines of responsibility for program results ...

"Second, each of these persons with program responsibility must have sufficient authority to take appropriate actions based on the operating results ...

"Third, program personnel must be involved in developing their own targets and action plans ...

"Fourth, personnel at all levels must be given training in generating accurate data, in using the reports they receive, and in setting realistic targets."

Information Format for Analysis

The information base for supervisory monitoring consists fundamentally of selected indicators applied to individual workers and supervisory units. For purposes of exposition, we follow through an example based upon the set of hypothetical results of Table 3.1. We presume that each indicator has been

Table 3.1

ILLUSTRATION OF PERFORMANCE INDICATOR ANALYSIS

Supervisory Unit 1					Supervisory Unit 2				
Worker	Perf. Category			Avg.	Worker	Perf. Category			Avg.
	A	B	C			A	B	C	
11	60	81	61	67.3	21	103	69	64	78.7
12	41 ¹	50 ¹	66	52.3 ²	22	60	71	72	67.7
13	45 ¹	51 ¹	71	55.7 ²	23	63	76	68	69.0
14	47 ¹	80	70	65.7	24	65	65	57 ¹	62.3 ²
15	66	70	87	74.3	Avg.	72.8	70.2	65.2	69.4
Avg.	51.8 ⁴	66.4	71.0	63.1 ⁶					

Decision Rule Signals

Code	n	$\frac{(1.28)(10)}{\sqrt{n}}$	Minimum Acceptable Performance
1	1	12.8	57.2
2	3	7.4	62.6
3	4	6.4	63.6
4	5	5.7	64.3
5	12	3.7	66.3
6	15	3.3	66.7

constructed such that a value of 70 denotes satisfactory performance. In assembling the illustrative data, some indicators (Unit 1, Performance Category A), workers (Unit 1, Workers 12, 13; Unit 2, Worker 24), and units (Unit 1) were assigned levels of performance significantly different from the "norm." In addition to these systematic effects, normally distributed random variation was introduced with mean 0 and standard deviation 10. Illustrative measures of chance variation were obtained from a table of random normal deviates. Thus, while the data are hypothetical, they contain all of the elements of reality in a controlled manner to facilitate discussion of principles and procedures of analysis and interpretation.

As indicated earlier, monitoring concerns levels and variability in performance. The attempt is made to identify cases of both low and erratic performance in an effort to progress toward increasingly uniform levels of high performance (Korten & Korten, 84, 1977; Wishik & Talwar, 5, 24, 1976; Bakken, 1981).

This general aim of monitoring leads operationally to four specific concerns in identifying:

1. individual workers with significant problems in meeting specific targets;
2. individual workers exhibiting generally poor performance, and therefore in need of selective supervision;
3. indicators in overall need of attention through group education in order to achieve a better balance of activities; and
4. entire supervisory units with low performance.

Once the magnitude of chance variation in indicator measures is established (standard deviation of 10 in the present case), the magnitude of chance variation in any composite of indicators can be readily determined. For example,

in the illustrative data an average of four indicators has standard error

$$\frac{10}{\sqrt{4}} = 5.$$

Then the desired level of significance must be specified. Normal probability tables indicate, for example, that the probability of falling by chance alone more than 1.28 standard errors below a mean level of performance is only ten percent. A result that is more than 1.28 standard errors below 70, therefore, might be considered reasonable evidence that performance is genuinely unsatisfactory. A result that is a composite of four indicators, therefore, could be expected, under "satisfactory" conditions to be no lower than

$$70 - (1.28)(5) = 63.6.$$

A lower result would merit investigation.

The pattern of variability among indicators will differ according to the circumstances, of course, along with the level of significance chosen to signal special action. Nevertheless, the procedures for developing decision rules, as well as their feasibility, will not change.

Applying the procedures to the illustrative case, we find that a number of individual indicators are at or below the signal level of 57 denoting significantly poor performance. The signals are not isolated cases, however; they exhibit a clear pattern. Workers 12, 13, and 24 are generally poor performers (<62.6), and Unit 1 is generally lagging in performance category A (<64.3). The former finding calls for selective supervision, whereas the second finding suggests the need for in-service training for all of the unit's workers in this area of activity. Such in-service training would not negate the need for individualized selective supervision relative to category A activities, since workers 12 and 13 are even below the generally poor performance levels of the unit in this respect. Finally, there is

evidence of general inferiority in Unit 1 (average score <66.7), suggesting the possibility of problems with the supervisor of that unit.

In summary, Unit 1 is in general need of upgrading, especially with respect to the imbalance in attention to category A activities in comparison with others. In addition, workers 12, 13, and 24 have been singled out for particularly intensive attention through selective supervision.

The illustrative case is admittedly artificial and simplistic. However, it serves to highlight a principle that is generally valid in practice: a few simple indicators appropriately constructed and adequately analyzed can be highly informative. Unfortunately, the more typical experience is that burdensome information gathering is imposed without corresponding attention to subsequent analysis. The result is volumes of data not fully utilized, or even worse, misused.

Selection of Indicators

The development and use of the foregoing format and procedures requires identification of operationally meaningful indicators. We first cite some general considerations in carrying out this task and then proceed to more detailed discussion of specific indicators.

1. The comparability feature has already been highlighted. Indicators should permit comparisons among workers, activity categories, and supervisory units at any time and over a period of time. Moreover, they should compare actual achievement with potential. For example, the number of clients contacted should be compared with the size of the target population and with the time availability of the worker, which is a proxy for the contact potential of the worker (Korten & Korten, 144, 1977).

2. A related consideration is that indicators should be independent of one another so that the signals they generate are unambiguous and non-overlapping.

Suppose, for example, that one has measures of the target population, numbers of individuals contacted, and numbers of family planning acceptors. Appropriate indicators would be: percent of target population contacted; and percent acceptance among those contacted. A measure of acceptance in comparison to the target population would fail to distinguish variations due to differences in contact rates from those due to variations in the effectiveness of contacts made. The two indicators suggested would independently assess these separate aspects of the service.

3. The third general point to be made is that both cumulative and current measures should be included in the list of indicators. Cumulative reports of performance to date give useful indications of overall progress of a program and tend to discount temporary aberrations. On the other hand, important recent changes in need of attention become buried and unidentified in totals and averages. Analysis of anthropometric data from Narangwal (unpublished) suggests, for example, that measures of weight gain provide a useful early warning of need for nutrition intervention at a young age not recognized in measures of achieved weight in relation to a recognized standard.

4. Finally, the matter of the timing of the analysis and reporting of indicators deserves attention. The norm seems to be a system of monthly reporting. While this seems reasonable intuitively, critical appraisal of timing questions is needed.

A corollary issue that has received some attention is whether the reporting of performance should precede or be a part of supervisory visits. In some projects the literacy level of distributors has been considered inadequate to impose responsibilities on them for information compilation. In such cases, the compilation takes place during periodic supervisory visits.

Despite these limitations, the importance is frequently cited for advance preparation of a checklist of points to be covered in the supervisory visit (McMahon, Barton & Piot, 325-6, 1980). Such advance preparation is inhibited in the absence of current data. As a minimum, however, the supervisor should be aware of indicator patterns exhibited up to the time of the most recent supervisory visit.

Bearing in mind these general considerations, it is necessary to identify specific types of indicators of value in supervision. A handbook prepared by the Population Council (Ross, et al., 1968) in 1968 specified eight categories of information to be included in master monthly reports, which are as follows:

1. Performance: data on new acceptors, clients re-supplied, total commodities distributed.
2. Performance Profiles: by user characteristics, facility, referral agent.
3. Staff: current numbers and change, client contacts, performance in relation to quotas.
4. Inventory and Supply Lines: current inventories, movement by item and depot.
5. Costs: expenditures, resources use per activity center and per unit of output achieved.
6. Provincial Comparisons: acceptors, personnel trained, etc.
7. Special Studies: as appropriate.
8. Narrative Summary Reports: digest of supervisor reports, evaluative synthesis.

A Technical Workgroup convened by the Pan American Health Organization in 1975 developed indicators for the evaluation of MCH/FP programs within five categories (Gorosh, 165, 1978):

"1. Volume Indicators, which measure, for example, amount of services rendered, facilities and personnel, money spent, and clients served.

"2. Coverage Indicators, measuring the extent to which services are provided to various groups in the population.

"3. Quality Indicators, including measures of emphasis, comprehensiveness, timeliness, span, duration, continuity, and satisfaction.

"4. Effectiveness Indicators, measuring the extent services are contributing to achievement of program objectives.

"5. Efficiency Indicators, which relate other indicators to units of input, usually cost but occasionally services and facilities."

The PRIMOPS program in Colombia (Corzantes & Delgado, 1980) has employed indicators of: working capacity; compliance with standards, techniques and procedures; and convincing capacity. Working capacity is measured in terms of absenteeism rates, mean number of attempted visits per worked day, and mean number of clients actually contacted per worked day, all obtained from service records. Indicators of compliance with standards are scores from 0-100 reflecting worker ability to perform selected tasks inherent in the program's service components. These are obtained from supervisory service record audits or direct observation of worker performance. Two family planning tasks are included: inquiry about contraceptive use and updating of the service form; and providing information regarding family planning services and method use. Indicators of convincing capacity identify the proportion of successful outcomes (services accepted) obtained from service records and workers' daily activity reports.

In their Guidelines for Selective Supervision of Local Service Units in Family Planning Programs, Wishik and Talwar (1976) have provided a large number of suggested indicators and tabulation formats. In contrast, the Piaui Project in

Brazil uses three comparative performance indicators as the basis for selective supervision: number of new clients seen, total number of visits, and distribution of new (other than traditional) contraceptive methods. In the SINAPS program in Guatemala, individual supervision of the rural health promoter takes place every two months. Selective supervisory visits on a more frequent basis are conducted:

1. During mass campaigns for vaccination and detection of malnourished children and pregnant women.
2. When the promoters have not completed their designated tasks within the time period.
3. When the promoter misses more than two training sessions (out of four) in any month (deLeon, Lechtig, 7, 1980).

Selective supervision visits can also be triggered by exceptional circumstances, such as commodity stockouts or local political problems.

The PROFAMILIA Project in Colombia likewise includes only a limited number of items in its monthly statistical reporting system (Echeverry, 147, 1975): movement of participants (new cases, re-entrants, previous month's participants, defaulters, and present month's participants); contraceptive distribution (pill, condom, and spermicides); and educational activities (meetings, attendance, and visits). The items reported are simply counts of events, not rate indicators, however.

Recently the World Health Organization has drafted a set of evaluation indicators for primary health care. This very large and comprehensive list is in need of substantial pruning and simplification before it can be made operationally useful.

Korten and Korten (86-87, 1977) have prepared what may be the most useful document on family planning management, including performance

monitoring. Although their focus is on clinical services, their view of essential items of data is worth noting. The use of these data in the formation of appropriate indicators for monitoring and evaluation is discussed at length in their book. The recommended data to be gathered include:

1. active users
2. number of fertile couples in the service area
3. new acceptors by method
4. dropouts by method
5. follow-up medical visits
6. work hours registered by each category of personnel
7. personnel utilization, i.e., service contacts per worker
8. average number of client visits per year
9. number of cycles of pills distributed per visit
10. number of persons requested to return due to lack of personnel time

to serve them.

The various sets of indicators cited above are helpful. They do not reflect unanimity of opinion, however. Moreover, many do not follow all of the guidelines listed earlier. For example, some of the measures employed do not permit direct comparability on unambiguously defined elements of performance subject to corrective action. Finally, some of the sets of indicators are only partially applicable to CBD programs, especially those utilizing part-time volunteer field workers. We conclude this section, therefore, with a suggested list of indicators adapted for CBD programs. It is assumed that these measures will be reported in both cumulative and current terms as appropriate.

First, the target population per worker should be ascertained. Second, a measure of the proportion of eligibles contacted is necessary as an indicator of

extent of coverage. Third, effect of coverage should be assessed as proportion of contacts who become acceptors. Fourth, efficiency or intensity of coverage can be measured in terms of number of contacts (input) per acceptor (output). Fifth, quality of acceptance should be measured with respect to method and duration of use. Sixth, the efficiency with which continuation of use is obtained can be judged by the number of contacts per unit time (e.g., year) of contraceptive use.

It is suggested that selected resource indicators be employed, along with the performance indicators. In particular, personnel retention rates and, where applicable, absenteeism rates can be informative, as well as indicators of commodity supply levels maintained.

Use of Information

The process itself of maintaining a simple set of records causes the supervisor to become acquainted with the strengths and weaknesses of his agents regardless of formal methods of records appraisal employed. This attention to record-keeping has been credited with much of the success of the Boyaca Project in Colombia (Bailey, 1981).

Translation of simple records into a limited number of useful indicators further helps in focusing attention on activities of accepted importance. Too frequently, however, projects must contend with inaccurate data subjected to inordinate delays in processing. The following comments from an evaluation of the CBFPS Project in Thailand epitomize this state of affairs (Burintratikul & Samaniego, 50, 1978).

"The data on acceptors recorded by distributors were not sufficiently reliable for drawing valid conclusions ...

"Difficulties in record-keeping were (attributable to) insufficient knowledge of distributors, inability to use judgment

in recording variant data, burdensome requirements of forms, and so forth ...

"Long delays in processing the survey results were apparent, and therefore inadequately valuable to management for policy and strategy development."

In Colombia's Boyaca project an elaborate census and information system was created: "...information was collected every year for three consecutive years, and similar questionnaires were used to report the promoter monthly activity" (Gomez, 8, 1982). This information was gathered and a computer program developed to establish longitudinal records for each woman (client). In the final analysis, however, the computer program was impossible to administer due to the reporting errors of the promoters (distributors).

Review of projects indicates that some have been relatively inattentive to data gathering and performance monitoring. Others have established elaborate record systems that have become overburdened and are largely ineffective in practice. A balance between these extremes is much-needed and requires conscientious and knowledgeable effort.

A distinction must be made between records kept explicitly for their value in the task of monitoring the performance of the workers and records designed to be sent to a higher level of management as summaries of work accomplished or of findings obtained in the course of the work. Although this distinction is important in designing the records, there will be, in practice, some overlap in the data assembled, but this presents no fundamental difficulty.

Frequently supervisors are given the responsibility of assembling and reporting data of the latter sort (that is, summaries and findings) which may have little direct relationship to monitoring the performance of individual workers

assigned to them. This division of labor is usually followed because the supervisors are in the best position to gather the needed data. Some of these data may be simply a totalling of the information collected on each worker. In such a situation, the data are of direct assistance in supervision. However, when administrative paperwork becomes too voluminous (as in Guatemala where one-fourth of the supervisor's time was reportedly spent) other responsibilities may suffer (Bakken, 1981). In any case, this task has the advantage of giving the supervisor the opportunity to better understand the overall progress of the program and to appreciate the importance of his role in the general scheme of things. These advantages should be stressed and reinforced during supervisory meetings. The summary data can also assist in the supervision by others of the supervisors themselves.

The content of the general summary reports is usually determined by those at higher levels in planning and general evaluation, but the supervisors responsible for gathering the data are in an excellent position to suggest modifications of the contents of the summaries on grounds of feasibility as well as general usefulness. These suggestions should be solicited, since they may not be spontaneously volunteered.

There is also a need for records designed to specifically monitor the work of individuals. Both the general planning of supervision and the design of the records to be maintained depend on determining and explicitly describing the tasks which the worker is to perform and which, in turn, are to come under the surveillance of the supervisor.

In considering the records to be kept specially for supervisors, two points are worth mentioning. First, each supervisor must be given some flexibility; in fact, he must be encouraged to develop some points of the record system he uses

that are uniquely his own. When this is done, not only will the supervisor be developing some procedures particularly useful in his own opinion, but he is likely to have a keener sense of his responsibilities and, in addition, one may expect that some of his ideas will prove to be worth adopting as general procedures.

A second point is that the records should be constructed such that they can form the informational basis for selective supervision. This means that the records should contain sufficient information to enable the supervisor to classify individual workers as to whether they are performing at superior, satisfactory, or inadequate levels. This type of classification of individuals is clearly depicted in the Performance Feedback Form for the Brazil Piaui Project (see Appendix 3.1) and enables the supervisor to modify his supervision activities in line with the needs of individual workers. The inadequate worker may need additional attention and help or may even merit removal from his post. The worker who is performing at a satisfactory level, but not better, will probably need only routine help and encouragement. The superior worker may be selected for more advanced training leading to promotion or may be asked to take on additional tasks with a chance to further demonstrate superior capacity.

Examples of Records Maintained and Reports Submitted

There are two broad classes of work that usually call for different intensities of records and reports:

1. Short-term projects for which a team or teams move into an area for a limited time and purpose. A typical example of this is a field survey.
2. Service programs that are expected to continue for extended, usually indefinite, periods of time. An example would be a community based program for the distribution of contraceptives or other health related supplies and services.

The second type may include one or more sub-projects of the first type, as when an initial step in setting up a program is conducting a survey of the community for planning purposes or to obtain baseline data to assist in subsequent evaluation.

It would be expected that the records maintained by the supervisor would be more detailed in the case of the short-term project than in the more general program.

A balance is necessary between formal records assessment and other sources of information. In Sudan, for example, dispensary nurses (trained in supervision) are expected to support midwives in satisfactorily accomplishing their tasks through observations of the midwives' skills and work, as well as via records analysis (Wawer, 1981). In Guatemala the TSRs (supervisors) are to accompany the promotoras on two to four of their home visits every three months. In the CBZO Program in Zaire, a checklist for observation of visiteuse (agent) home visits is used in the final evaluation of visiteuse training and also as a direct supervisory technique during later home visits (Wawer, 1981).

In programs distributing Oral Rehydration Salts and/or teaching ORT, supervisors have surveyed acceptors and asked them to prepare ORS to evaluate how effectively distributors have been communicating the relatively complex instructions. Indirect supervision of the promoters through client interviews is also used in Brazil's CPAIMC promotional effort in Rio de Janeiro, where supervisors randomly interview women in the treatment area to determine the extent of coverage and the impact of information communicated by the promoter.

Wishik and Talwar (1976) recommend three means of information verification and monitoring:

- "(1) review daily clinic summary sheets and appointment ledgers;
- (2) check individual case records randomly picked from the files;
- (3) at a later time, make house visits to randomly selected women, if the situation seems to warrant this."

Well-structured supervisory checklists have been proposed as one means of ensuring that supervisory visits are effectively targeted on individualized issues of importance, acknowledging the variety of measures and sources of information that might be relevant. The checklist used in Zaire's CBZO program is included as Appendix 3.2 (Wawer, 1981). A very detailed checklist has been developed as part of the Supervision Guide for a specific project in Peru (deTanco, Appendix E, 1980). Broader guidelines have been proposed by W.H.O., along with detailed examples of their possible application in the field (McMahon, Barton & Piot, 1980). The proposal notes that:

"A small supervisory notebook helps in planning visits. Information from records kept in the health centre, which relates to the visit being prepared, can be noted in it, as well as topics to be discussed during the visit. The notebook is an informal record and notes can be made in any way that is felt to be easy and most useful."

In the New Strategies Project (Mexico), a supervisory guide was developed to aid in supervision activities. Rural supervisors filed monthly reports to the state coordinators on: 1) problems encountered; 2) action taken; and 3) action pending initial results and recommendations (CPFH, 66, 1981).

The BEMFAM project in Brazil developed a Post Performance Form which provides immediate performance feedback to the distributor at the time of the visit. According to work samples of activity during supervisory visits, this form takes less than nine percent of the visit time to complete. However, given the burden of other administrative tasks (primarily inventory counts) only 6-28 percent of the time is left for actual discussion with the distributor.

Procedures for the monitoring of individual performance need to be strengthened and up-dated periodically in light of aggregate experience. In some projects, for example, monthly meetings of supervisors include comparative reviews of performance reports in order to identify common problems, e.g., the need for specific types of in-service training (Bailey, 1981).

Critical appraisal of the use of the various elements of recorded information for decision making serves to prune and streamline the record system (IFW, 86, 1975). In some cases it is possible to use computers to test the discriminatory power of individual indicators (Wishik & Talwar, 11, 1976). Such weeding procedures can be helpful in focusing attention at any time on a manageable number of key issues. As projects progress toward their ultimate objectives, these issues are bound to shift, and supervisory attention should be shifted accordingly.

Wishik and Talwar (31, 1976) have suggested the occasional conduct of two case studies representing exceptionally good and poor performance for in-depth analysis of causal factors underlying performance. The analyses can improve supervision and the information system supporting it.

Highlights

Effective performance monitoring dictates that adequate priority be given to data translated into informative indicators without needless

sophistication. In addition, useful application of the indicators requires that supervisory authority and concurrent responsibility for decision making be clearly enunciated; and that supervisors recognize the information's value and be trained in its use in decision making. The supervisors themselves have a central role to play in identifying decisions to be made and consequent information requirements. They require adequate technical assistance, however, in the development of appropriate indicators and information systems. Achievement of the potential of a good information system requires adequate quality control and wise use of the information generated. Too much attention is frequently placed on data gathering and too little on data analysis, interpretation and use. Parsimonious data collection focused on significant issues must be coupled with timely and operationally meaningful analysis.

B. SELECTIVE TIMING OF SUPERVISION

Basic Questions of Frequency

How frequently should supervisory field visits be made? Frequent, once a week, centralized group meetings for discussion and continuing education are an integral part of programs in such diverse countries as Guatemala and Bangladesh. In contrast, what are the effects of supervisory travel into the field to observe the agent's performance in his/her day-to-day setting?

Available observations from CBD programs show conflicting outcomes vis a vis the perceived importance of frequent supervisor field contact on the performance of agents. Analysis of factors affecting the distributor performance conducted by Bertrand in Guatemala in 1979 found that, particularly in the rural areas, the "...average CMP (Couple Months Protection) was lower for distributors who received supervision once every two months or less often (5.6). The average level of sales increased among those who were supervised monthly (10.8) or more often (12.9). (Bertrand, 1980). In another Guatemalan study it was reported that: "Knowledge scores were higher for distributors who received supervision once a month or more, in comparison to those who are supervised less frequently" (Bertrand, 1981).

Mexico's New Strategies Program specified that field supervision of agents was to be conducted on a once-a-month basis. In addition, agents would attend a supervisory group meeting one day each month. Interestingly, while the large majority of agents in both the urban and the rural areas reported that their supervisors visited them at least once every four weeks, the most common suggestion made by the agents themselves to improve their supervision was more frequent visits to the field by the supervisor. Of the rural agents who were visited

less than once every two weeks, 46 percent suggested more frequent visits. In the final assessment of the program the importance of more frequent home visits during the early phases of a program was stressed (CPFH, 78, 1981).

On the contrary, in Brazil's experiment with 31 new rural posts (experimental and control), the experimental group of agents receiving quarterly supervisory visits plus selective visits has attracted to date an average of 5.3 new clients a month. The control groups receiving monthly supervisory visits are recruiting an average of 4.4 new clients per month. Unlike the New Strategies observations, this would lead one to the tentative conclusion that monthly visits may not be necessary for new posts.

The optimal frequency of field supervision remains a variable dependent upon many other individual program factors. In programs where the supervisor is also providing curative care, required visits to the community may be more frequent and scheduled. If distributors are experiencing difficulties in being accepted by the community, then the joint home visits by the supervisor/distributor team may be extremely helpful in lending credence to the distributor's role. More frequent visits may be more important in rural areas where support lines are more tenuous and morale may be lower than in urban areas. Obviously, another factor is the length and quality of the visits. In Mexico it was suggested that overnight stays by the supervisor in the rural communities should be considered. In programs such as Brazil where quarterly visits are the norm, all the visits are planned to be of greater length and intensity.

Principles of Selective Supervision

As the range of activities undertaken in CBD projects expands, the monitoring of performance becomes more critical and also more complex. Moreover, the extension of services to more remote areas, which causes supervision to be more time-consuming and difficult, underscores the requirement that it be purposeful and optimally effective. As a result, the concept of selective supervision is gaining wider acceptance in principle and is being applied more frequently in practice. This is encouraging inasmuch as selective supervision is based upon the principle of management by exception which has long been followed by private industry as a basic element of sound business practice.

While the principle is fundamental, it is by no means simple or subject to routine application without critical appraisal of individual circumstances. The point is worth exploring through statistical analysis of various hypothetical conditions. Inferences drawn from such analysis provide the general guidelines to be followed for developing procedures for selective supervision in practice.

We begin by discarding the simplistic notion that distributors are easily and unequivocally distinguishable as satisfactory or unsatisfactory performers. It is true that they differ according to the measures of performance employed, but these measures are the result of chance variation as well as factors subject to systematic change through effective supervision.

In effect, the screening of distributors for identification of individuals in need of special attention is much like the screening of individuals for disease. The same statistical and epidemiological principles apply. For example, in screening for diabetes by means of blood sugar determinations, false positives and false negatives inevitably arise because the laboratory results provide indirect and

imperfect evidence of the presence or absence of disease. Similarly, the measure of "new acceptors" in a CBD program is only an indirect assessment of worker skill, effort, and other factors of concern to supervision. Selective supervision, therefore, must inevitably result in some unnecessary contacts (false positives) and will also fail at times to provide needed support (false negatives). As in the case of screening for disease, the issue in selective supervision is how best to balance the inherent risks and costs.

To examine the issue more closely, let us suppose that a program has two categories of distributors. The truly capable or satisfactory group generally ranges in performance from 80-120, averaging 100. The truly unsatisfactory group scores between 60 and 100 in performance and averages 80. The problem, of course, is how to classify an individual with an intermediate score of, say, 85 or 90. Realistically, the program may include several categories of distributors representing varying degrees of capability. The simpler two-category case is adequate, however, to develop the general insights of interest.

To state the hypothetical case in more precise statistical terms, we assume a satisfactory group (S) with performance measures normally distributed about a mean of 100, with standard deviation 10, and an unsatisfactory group (U) with mean 80 and standard deviation 10. Then what if, for example, it is decided that supervision is to be provided selectively to all workers who fail to achieve a performance level as high as 95? Normal probability tables indicate that 93 percent of all unsatisfactory workers would be identified for selective supervision, but 31 percent of the satisfactory workers would be included as well. Unnecessary supervision could be reduced by lowering the performance score "trigger," but fewer unsatisfactory workers would be visited as well. A performance limit of 85, for example, would identify 69 percent of the unsatisfactory workers and would unnecessarily include 7 percent of the satisfactory workers.

The volume of selective supervision depends upon two factors: 1) the performance score or criterion "trigger"; and 2) the number of workers in each of the two groups (i.e., the true prevalence rate). Using a cutoff performance score of 95 in a program with 500 workers, 20 percent of whom are truly unsatisfactory, selective supervision would be applied to

$$(100)(.93) + (400)(.31) = 217 \text{ distributors}$$

or 43.4 percent of the total of the 500 workers. Of the 217 distributors visited, only

$$\frac{93}{217} \times 100 = 42.9 \text{ percent}$$

would actually be in need of special supervision (those coming from the truly unsatisfactory group).

Frequently the intended level of selective supervision (e.g., lowest 20 percent, performance-wise, of all distributors) is specified in advance, rather than the minimum level of performance to be tolerated (e.g., all distributors with less than 95 performance score). If one assumes that 20 percent of the workers are unsatisfactory, it might be considered reasonable (naively) to visit those in the lowest fifth of performance. The normal probability table reveals that workers with performance scores below 86 would be selected. This would cover only 71 percent of the truly unsatisfactory, but would also include 7 percent of the satisfactory workers.

To the extent that performance screening is sensitive in detecting unsatisfactory (U) workers and resulting supervision is effective in transferring individuals from the U group to the satisfactory (S) group, the relative amount of selective supervision will decline over time, assuming no change in criteria for minimum acceptable performance. In the case of 500 workers, 100 of whom are in

the U group initially, we have seen that the first round of (20 percent) selective supervision would identify 71 of these. If all became truly satisfactory performers, the workforce would then consist of 471 S category and 29 (5.8 percent) U category individuals. From the normal probability table we find that for the second round about 35 of the former and 21 of the latter could be expected to fail to achieve performance scores as high as 86, the established "trigger" point. Thus, the level of selective supervision would drop from 20 percent to 11 percent, as only 56 of the total 500 workers would be identified for selective supervision in the second round. Further declines could be expected in subsequent rounds. Moreover, because of the declining prevalence of truly unsatisfactory workers, the efficiency of screening would decline in the sense that those selectively visited would include a higher proportion of false positives, or already (S) workers. In particular, whereas 71 percent

$$\left(\frac{\text{No. in (U) Category Identified}}{\text{Total No. Below "Trigger" Point}} = \frac{71}{100} \times 100 = 71 \text{ percent} \right)$$

of those visited in the first round would be chosen correctly, the level of efficiency in the second round would decline to 38 percent

$$\left(\frac{\text{No. in (U) Category Identified}}{\text{Total No. Below "Trigger" Point}} = \frac{21}{56} \times 100 = 38 \text{ percent.} \right)$$

Summarizing to this point, we have focused on three parameters of basic concern in establishing procedures for selective supervision:

- (1) the relative proportion of workers who are truly unsatisfactory (U);
- (2) the level of selective supervision established (or alternatively the criteria for minimum acceptable performance); and
- (3) the relative effectiveness of selective supervision in converting workers from U to S category.

Thirty-two combinations of these parameters have been analyzed in detail. Twenty and 40 percent rates of initial unsatisfactory performance have been considered. Initial levels of selective supervision have been chosen at 10, 20, 30, and 40 percent. Supervision success rates in converting from unsatisfactory to satisfactory performance categories have been selected at 25, 50, 75, and 100 percent. Simulated experience with each of the 32 combinations ($2 \times 4 \times 4 = 32$) was derived over five rounds of supervision. Fifth round results were then translated into three indicator conditions for purposes of comparative analysis:

Figure 1--fifth round supervisory visits as a percentage of first round;

Figure 2--percent of fifth round supervisory visits actually needed, i.e., percentage "true positive;" and

Figure 3--percent of workers remaining in the U category after fifth round of supervisory visits.

In Figure 2, the final percentage of "true positives" is compared with first-round rates (dotted line), or equivalently, under circumstances in which supervision is totally ineffective in stimulating real performance improvement.

Together the figures indicate that the level of selective supervision tends progressively to decrease and what remains becomes less productive. One extreme case is that in which the proportion of unsatisfactory performers is relatively low (20 percent) to begin with and supervision is highly effective. Under such circumstances the curves of Figure 1 slope upward with increasing levels of initial supervision. Thus, the high initial levels tend to be sustained for the purpose of visiting workers who in fact are no longer in need of special attention. The reason is that the high rates of selective supervision produce relatively high performance "triggers," which means that virtually all unsatisfactory workers are identified

Figure 1A

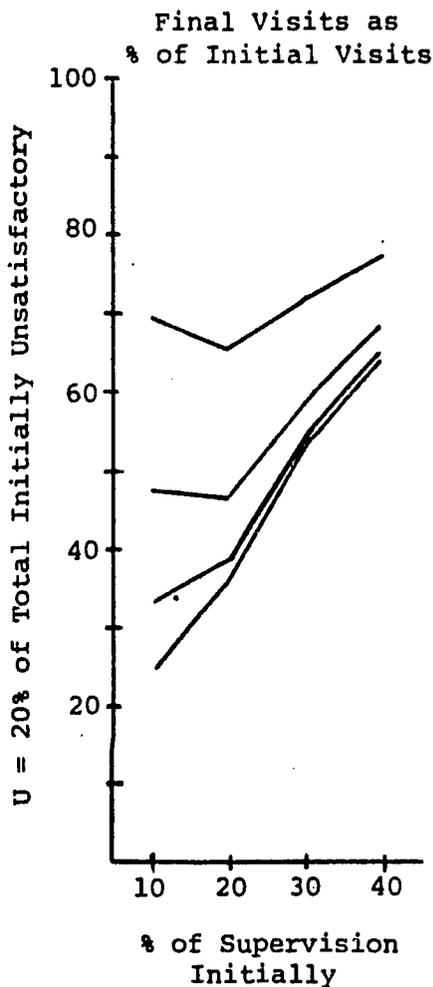


Figure 2A

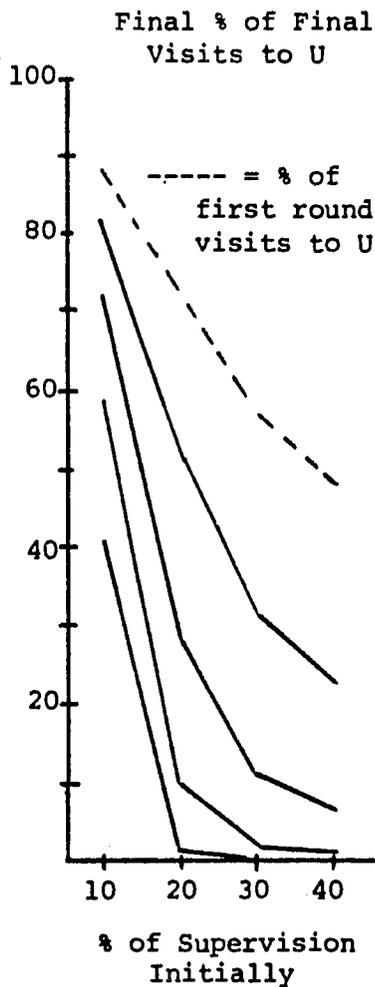


Figure 3A

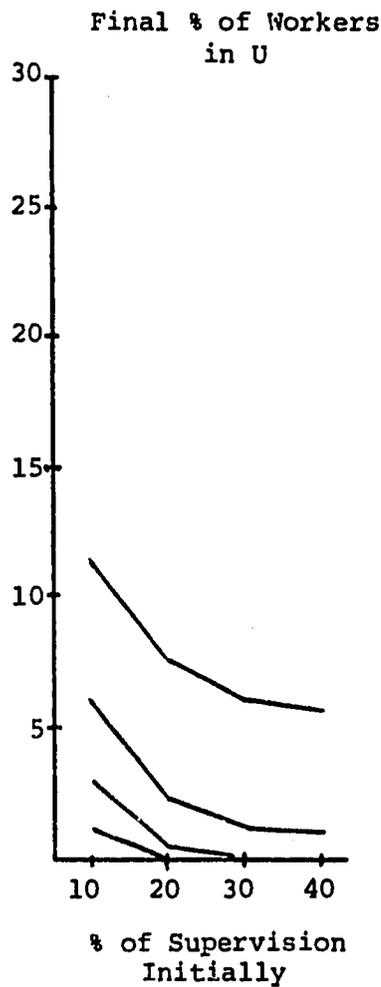


Figure 1B

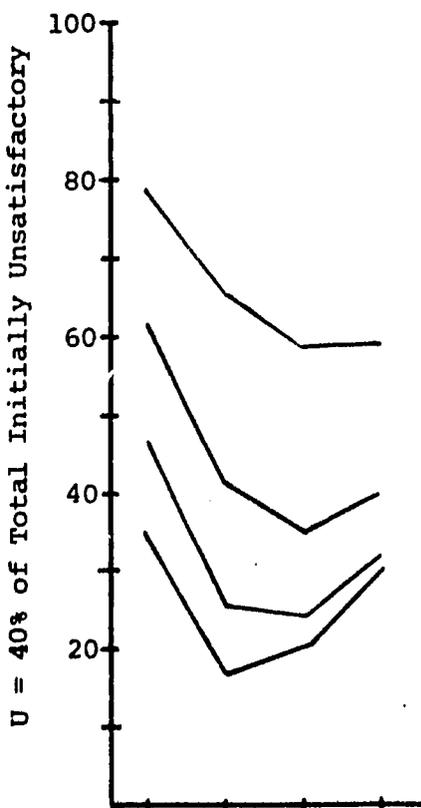


Figure 2B

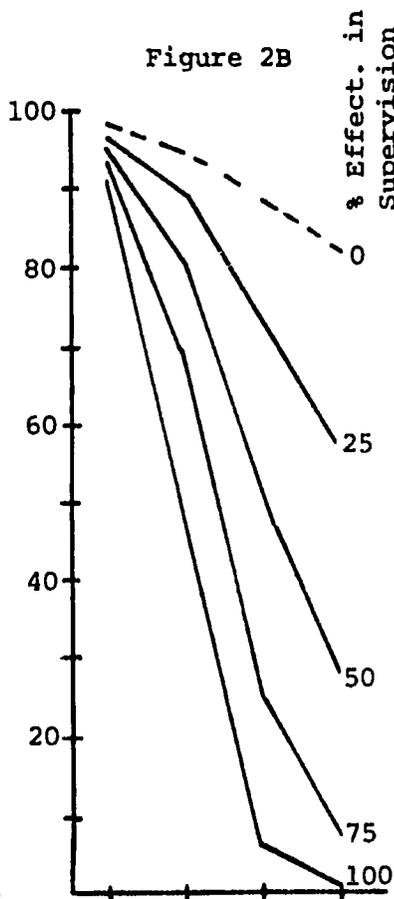
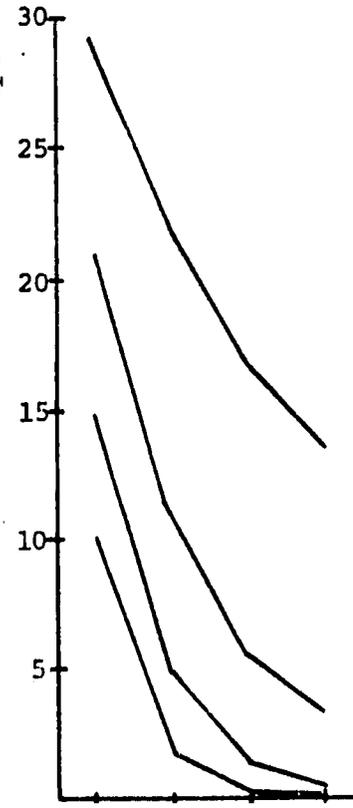


Figure 3B



early in the process and successfully transferred to the S category. Because of the high performance "trigger," however, the dominant S frequency distribution produces large numbers of "false positives" who continue to receive supervisory visits unnecessarily.

At the other extreme we have cases in which the rate of truly unsatisfactory performance is high initially and limited, relatively ineffective selective supervision is employed. Even in such cases the amount of supervision declines over time and becomes somewhat less efficient; yet the level of unsatisfactory performance remains high, as seen in Figures 1B, 2B, and 3B.

While the extreme cases are useful in depicting fundamental statistical forces, intermediate cases may be of more practical relevance. In particular, one sees a trade-off between amount and effectiveness of selective supervision. What is the relative effect, for example, of a 10 percent level of supervision that is totally effective in comparison to a 20 percent level that is half as effective? Table 1 makes comparison in several respects for supervision levels of 40, 20, and 10 percent that are respectively 25, 50, and 100 percent effective. The comparisons are based upon five rounds of supervision in a program with 500 workers, either 20 or 40 percent of whom are truly unsatisfactory initially.

Although the number of first-round visits range from 200 to 50 (a 4:1 ratio), the ratio of total visits over five rounds reaches more than 6:1 with the U group representing 20 percent of the total and nearly 5:1 in case the U group is initially 40 percent of the total. Furthermore, the cumulative proportion of "true positive" visits is uniformly higher under conditions of restricted supervision. Thus, limited, effective supervision not only focuses more on potential beneficiaries of supervision, but the potential is more fully achieved. These two factors can be combined in a measure of "successful conversions from U to S status per 1,000

visits." Viewed in these terms, dramatic advantages are seen for limited, effective supervision. Finally, the advantage is apparent in the reduced proportion of workers in the unsatisfactory category at the end of five rounds of supervision. There is an apparent need for more selective supervision where levels of unsatisfactory performance are initially high, as seen in the second half of Table 3.2. Even here, however, the advantages of limited supervision effectively conducted are striking.

The interaction between selectivity and quality of supervision is shown more generally in Figure 4, which shows "successful conversion" rates for all 32 cases investigated. Under conditions of limited supervision, the effectiveness of that supervision is seen to be extremely important. On the other hand, high rates of supervision are associated with much lower successful conversion rates, and these are little affected by supervisory quality, especially if the initial proportion of U category workers is low. Under these conditions, as shown in Figure 2, the potential for success is restricted by the presence of many "false positives;" with little room for improvement, supervisory effectiveness can exert little impact.

Whereas Figure 4 shows cumulative successful conversion rates, Figure 5 shows the marginal effects at the fifth round for the two extreme cases of 25 percent and 100 percent supervisory effectiveness. The marginal curves cross, indicating that with relatively high levels of supervision, marginal successful conversion rates are actually lower when supervisory quality is high. This is caused by earlier conversions having essentially exhausted the pool of "true positives" who could benefit from competent supervision.

The analysis has clearly guided us toward a policy of limited selective supervision, coupled with heavy emphasis on supervisory effectiveness. The analysis has shown in addition, however, that even under this policy substantial

Successful Conversions from U to S Status
per 1,000 Supervisory Visits

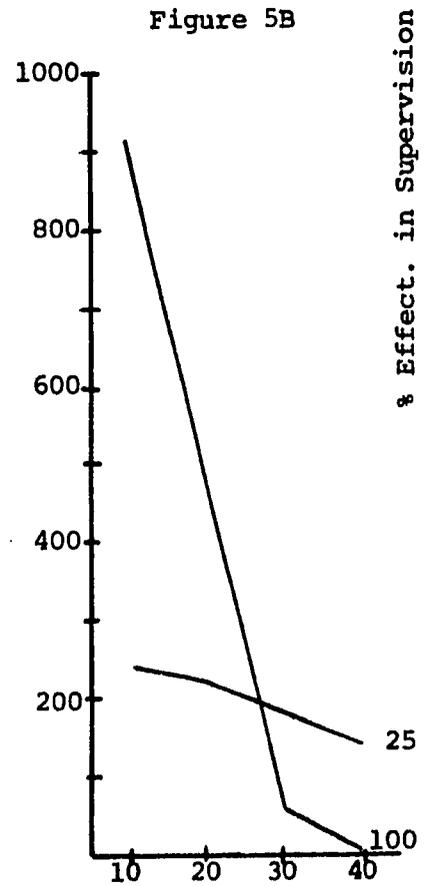
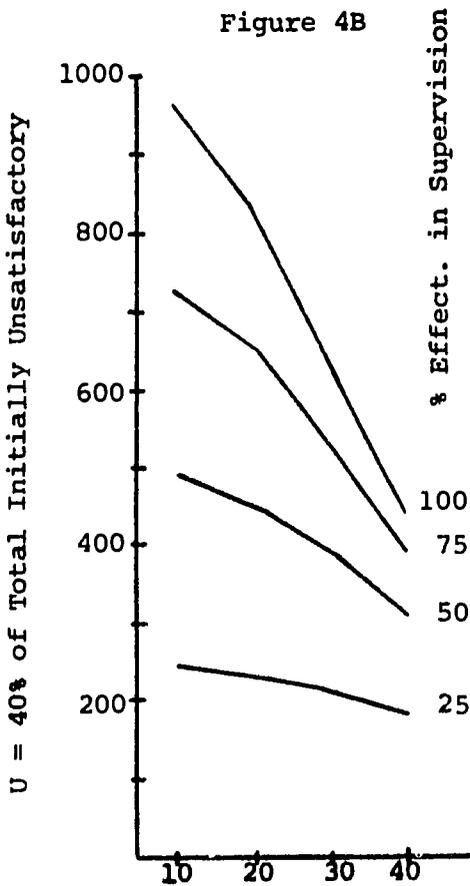
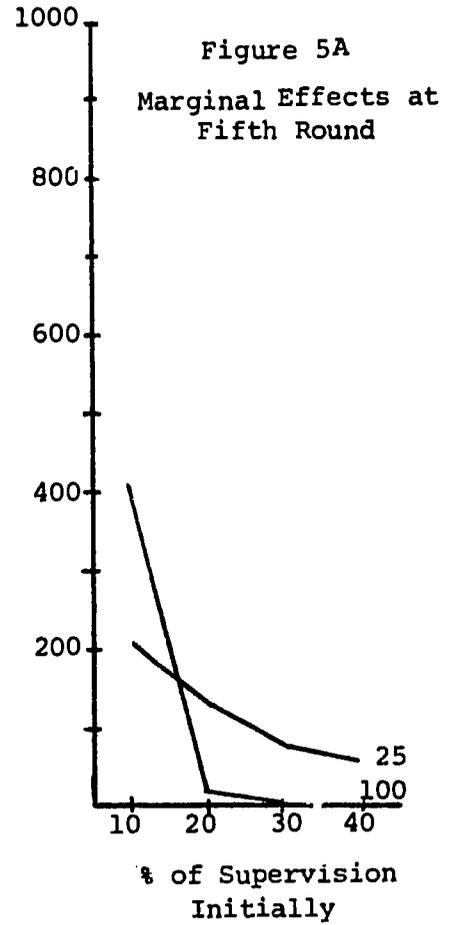
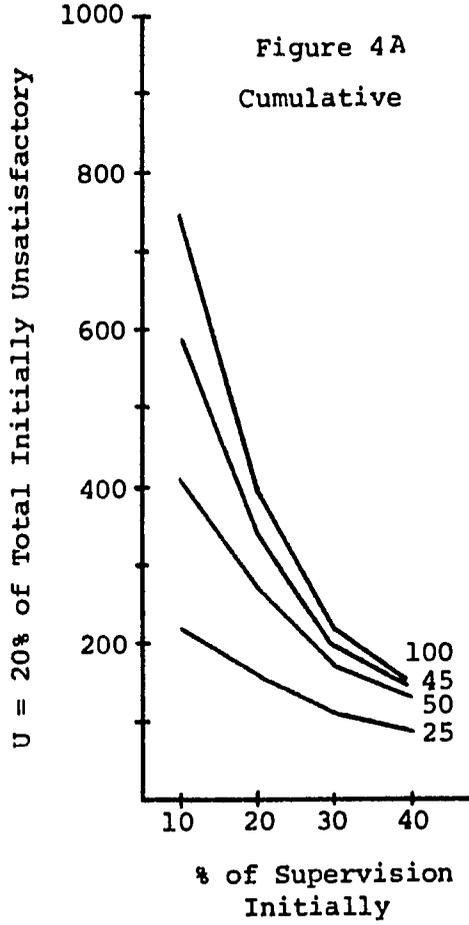


Table 3.2
COMPARATIVE RESULTS FROM FIVE ROUNDS
OF SIMULATED SELECTIVE SUPERVISION

Initial % Workers Visited (level of selective supervision)	10	20	40
% Effective U Visits conversion from (U) to (S)	100	50	25
<hr/>			
<u>% U = 20 First Round Visits</u>	50	100	200
Ratio	1	:	4
Total Visits	125	326	816
Ratio	1	:	6.5
% Visits to Truly Unsatisfactory	75	54	35
Successful Conversions from U to S per 1,000 Visits	747	270	88
Final % Unsatisfactory	1.3	2.4	5.6
<u>% U = 40</u>			
Total Visits	156	325	743
Ratio	1	:	4.8
% Visits to Truly Unsatisfactory	96	90	72
Successful Conversions from U to S per 1,000 Visits	958	449	179
Final % Unsatisfactory	10.0	10.8	13.4

room for further improvement remains after five rounds of selective supervision. While marginal improvements are declining they may still not be negligible. Given as much as 40 percent unsatisfactory performance initially, for example, 10 percent selective supervision that is 75 percent effective, leaves a pool of nearly 15 percent in Category U after five rounds (Figure 3). Recall that this result was obtained assuming that the performance "trigger" remained constant, with consequent reduction in supervisory visits over time. In particular in the present case we find in Figure 1B that less than five percent of workers are visited in the fifth round, compared with 10 percent initially.

This suggests the possibility of holding the level of selective supervision constant while adjusting the performance "trigger" to accommodate the desired (constant) level of supervision since otherwise the supervisor would be underutilized by round 5. Alternatively, a program might begin in a small area and subsequently expand as supervisory requirements are reduced. Specifically, is it better to maintain selective supervision at a ten percent level indefinitely, or is it better to allow it to decline and then at some point to increase the number of workers supervised? If the latter, when is the point of indicated expansion reached? These questions have been addressed in Figures 6-8.

Because supervisory effectiveness has been held fixed at 75 percent, Figures 6 and 8 show similar results in favor of the constant "trigger," reduced supervision approach. If the reduced supervision resulted in increased effectiveness, however, the lines in Figure 8 would be closer together as there would be progressively more false positives which would further reduce the successful conversion rate. On the other hand, Figure 7 shows that the constant supervision level approach produces continuing effects on performance that may outweigh the reduced efficiency exhibited in Figure 8 in achieving these effects. The results are thus somewhat equivocal.

Illustrative Effects of 10% Supervision with 75% Effectiveness

T - Constant Performance Trigger
 V - Constant Rate of Supervisory Visits

Figure 6A

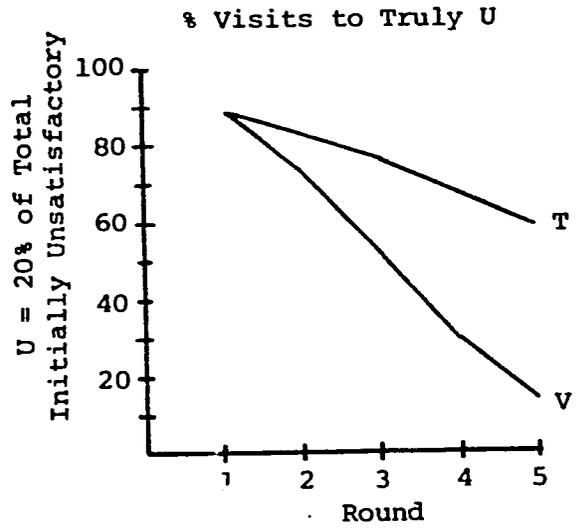


Figure 7A

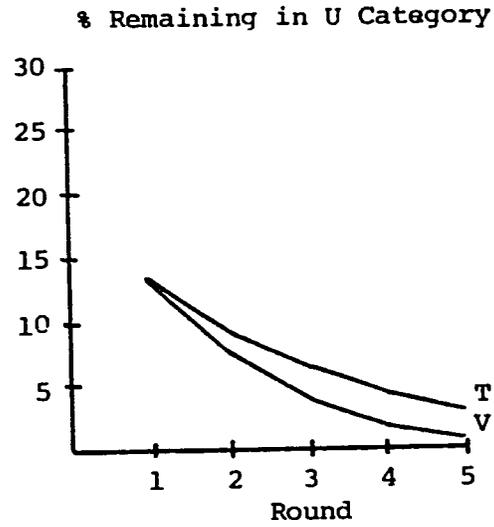


Figure 8A

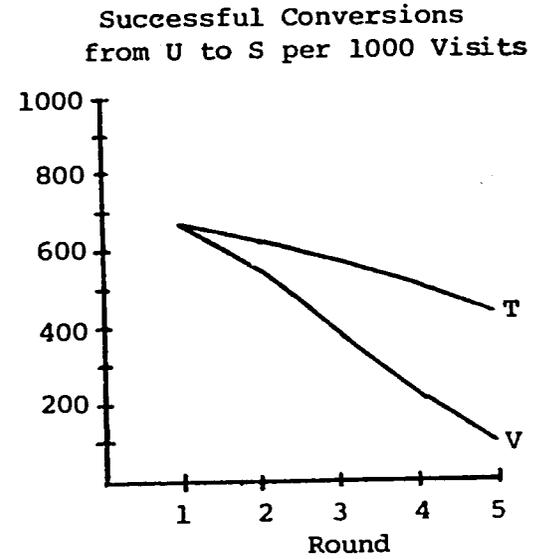


Figure 6B

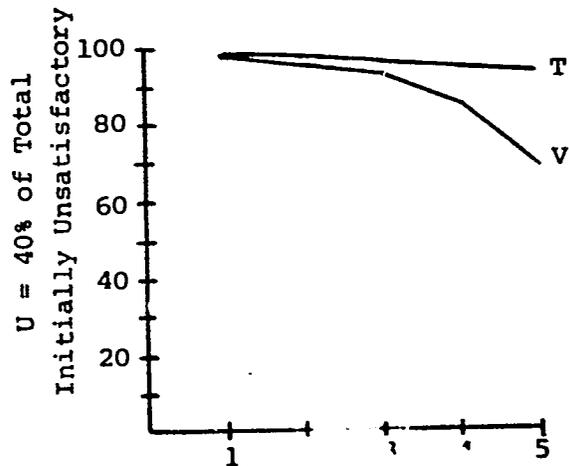


Figure 7B

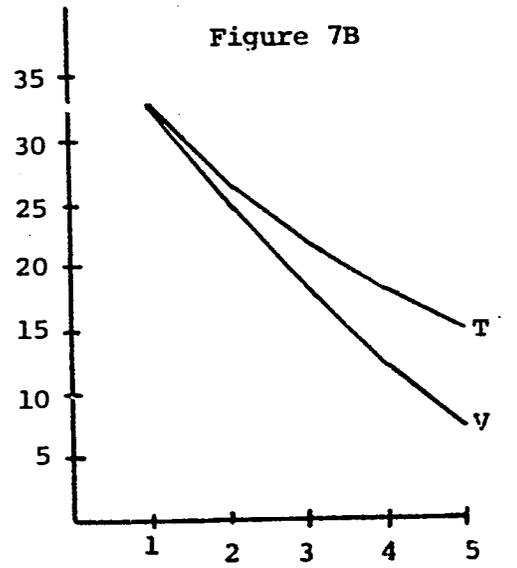
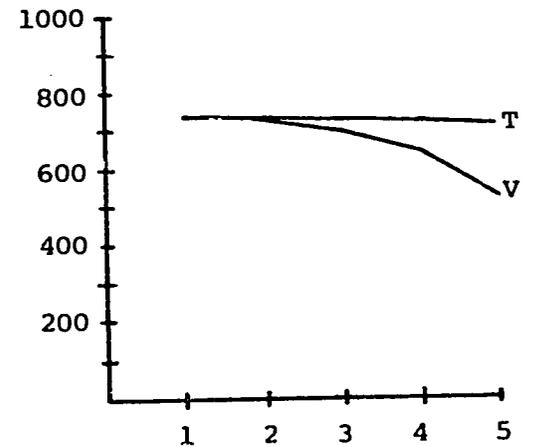


Figure 8B



It can be said, however, that where levels of initial performance are highly unsatisfactory, there is little difference in efficiency from the two approaches, especially in early rounds, as seen in Figures 6B and 8B, and the continuing need for improved performance suggests that a sustained level of supervision is probably worthwhile (Figure 7B). This is simply to say that the greater the magnitude of the problem, the more advisable is a sustained level of effort in dealing with it.

In any case, a point is likely to be reached where reduced levels of supervision are appropriate. This point will be reached at different times under different circumstances. While the conclusion is hardly surprising, it is typically given inadequate attention in the dynamics of planning for supervision. Performance monitoring is generally more important in the early stages of a program when other functions of supervision likewise demand special attention.

We are led through this analysis to the overall conclusion that selective supervision should be truly selective, and even then the need for it can be expected to diminish over time. It is essential that the dynamics of changing supervisory needs be given the attention deserved.

Appendix 3.1

CRITÉRIOS PARA SELEÇÃO DE POSTOS COM DESEMPENHO INSUFICIENTE
(CRITERIA FOR IDENTIFYING POSTS WITH INSUFFICIENT PERFORMANCE)

Postos Domiciliares e Comunitárias
(Domiciliary and Community Posts)

REGIÃO: _____ (Region) SUPERVISORA: _____ (Supervisor)
MUNICÍPIO: _____ (Municipality) DISTRIBUIDORA: _____ (Distributor)
POSTO: _____ (Post #) TIPO: _____ (Type)
LOCALIZAÇÃO: _____
DATA DA VISITA: _____ (Date of Visit) inclusive o(s) mes(es) de (includes the month(s) of)

1. CLIENTES NOVAS (# of new clients) _____



Comparação com outros postos de distribuição do mesmo tipo no Estado do Piauí.

(Comparison with other posts of the same type in the State of Piauí.)

2. TOTAL DE ATENDIMENTOS (total visits)

mes anterior ÷ 2 = → ponto crítico
(previous month) (criterion)
_____ mes de supervisão (month being evaluated)

Comparação do desempenho atual de posto com seu desempenho anterior.

(Comparison of present performance with the post's own performance the month before)

- Se o total de atendimento do mes(es) da supervisão for maior do que o do(s) mes(es) anterior(es) —————> bom desempenho.
- (If the total visits for the month(s) being evaluated was greater than the month(s) before —————> good performance.
- Se o total de atendimento da supervisão for menor do que o do(s) mes(es) anterior(es) —————> compare com o ponto critico.
- If the total visits was less than the month(s) before —————> compare with the criterion.

CONCLUSÕES (conclusions)

- . Total de atendimento da supervisão maior do que o ponto critico —————> desempenho suficiente.
- . (Total visits greater than the criterion —————> sufficient performance.)
- . Total de atendimento da supervisão igual ao ponto critico —————> desempenho suficiente, mas o posto deva ser observado.
- . (Total visits equal to the criterion, —————> sufficient performance, but the post should be observed.)
- . Total de atendimento da supervisão menor do que o ponto critico —————> desempenho insuficiente. ATENCAO.
- . (Total visits less than the criterion, —————> insufficient performance. ATTENTION.)

3. NOVOS METODOS (new methods)

Foram distribuidos no posto, condon, espuma, geléia, tablete ou folhetos de método natural?

(Did the post distribute condoms, foam, jelly, tablets, or brochures explaining the "natural" method?)

SIM	NAO
_____	_____
_____	_____

Dramatize com a distribuidora uma triagem.
(Role-play a triagem with the distributor.)

4. OBSERVAÇÕES (observations)

Preencha no caso de encontrar: item 1 foram da média, item 2 desempenho insuficiente, item 3 resposta negativa.

(In case of finding: item 1 below the median range, item 2 insufficient performance, item 3 negative response.)

Tipo de problema encontrado:
(Type of problem encountered)

Causas: (causes)

Solutions:

Appendix 3.2

Direct Supervisory Checklist for Observation
of Visiteuse Home Visits

CBZO, Zaire

Did the Visiteuse

Introduce herself? _____

- explain why she was at the home? _____

Did she ask the number of preschool children? _____

- inquire about fever? _____

- in the case of fever -

explain the possibility of malaria? _____

explain treatment? _____

explain the dosage to the mother? _____

have mother repeat the dosage? _____

- inquire about diarrhea? _____

- in the case of diarrhea -

explain water loss clearly? _____

explain ORT clearly? _____

explain how to prepare ORT? _____

- how to clean bottle, pot? _____

- how to measure carefully? _____

- how to add ORT? _____

- how to administer ORT? _____

Did visiteuse have mother prepare the ORT? _____

- have mother repeat how to use it? _____

Did visiteuse tell mother about the dangers of worms? _____

- explain treatment? _____

- administer treatment if mother is willing? _____

Did the visiteuse link health and contraception? _____

- did she explain all methods clearly to the client? _____

- if the client chose a method, did she explain it clearly in depth? _____

- did she explain how to use it? _____

- ask about relevant contraindications? _____

- explain relevant side effects? _____

- check if mother understood how to use the method? (have mother repeat?) _____

Did she explain how to get further supplies? _____

Were her money transactions complete? _____

Was her record filled out completely and correctly? _____

If any condition required follow-up, did she make the appropriate referral? _____

IV. SUPPORT FUNCTIONS OF SUPERVISION

The observation has been made in Brazil's BEMFAM program that "... the best posts were usually those where the supervisor and the distributor liked each other" (Foreit, 2, 1981). While at first glance this may appear to be a trite and obvious truism, the establishment of a close rapport between the supervisor and the distributors is no simple accomplishment. The role of the supervisor as counselor, rather than inspector, should have a central place in the management of any project. Yet, this is one of the most vaguely appreciated and little applied of any of the principles of supervision. In the final analysis, even performance monitoring should have the personal growth of the distributor in mind. In practice, this feature is seldom apparent.

There is little evidence in the literature that much scrutiny has been paid to how this support role has or has not been established and maintained in CBD projects. In this chapter we will discuss the support the supervisor provides to the distributor in terms of training, logistics, personal development, job satisfaction, and facilitation of community relations.

A. DISTRIBUTOR PRE-SERVICE TRAINING

Although the distributors' in-service training is usually the domain of the supervisor, this is not always the case for their pre-service training and orientation. In examining distributor training there is a broad spectrum of people who serve as conductors of these initial training sessions. Some of the factors influencing the choice of trainers include size, age, and duration of the program.

In cases such as Thailand, outside training specialists, or specialists located within the MOH or administering agency conduct the sessions. In this

situation the supervisor is in attendance but is not a full participant in the process. In programs such as Bangladesh it is the supervisor who is in charge of orienting the distributors to the goals of the program and providing them with necessary training. The BEMFAM program has gone through a transition in its choice of training personnel. Initially, central BEMFAM training personnel conducted the training of agents at regional headquarters. However, over a two-year time frame, these training tasks were gradually delegated to the local supervisors.

The rationale for involving the supervisor to the fullest extent possible in the distributors' pre-service training is based upon the premise that this interaction can only enhance the development of a meaningful rapport between supervisor and distributor. It may also serve to familiarize the supervisor with the individual characteristics of his/her distributors through intense contact. Naturally, if the supervisor is to be prepared to take this participatory training role, this goal must be kept in mind during the supervisor's own training period.

We have discussed in an earlier chapter that some view frequent supervision during the onset of a program to be of great importance (CPFH, 78, 1981), while others are experimenting with the initial institution of quarterly field visits plus selective supervisory visits. Although there is not yet enough accumulated experience for evaluation, one cannot help but wonder what effects this initial frequency element may have on the development of a constructive rapport between supervisor and distributor. In particular, a lack of contact may be felt more keenly in programs where the supervisor does not participate in the distributor training to any great extent.

B. SUPPLY AND REMUNERATION

One of the most crucial factors behind the maintenance of the distributor's legitimacy as a "health worker" in the eyes of the community is the

community's confidence in the distributor's ability to provide and maintain supplies. Careful attention to potential stock outages and immediate rectification of shortages should they occur are extremely important supervisory support functions. Where these supply lines are not attentively maintained, the distributor status can be quickly eroded. In this example we see what effect shortages can have:

"The post experienced a complete stock-out of pills until the supervisor brought 100 cycles from another post. They are now giving only 1 cycle instead of 3 to revisits. The distributors report that the clients are afraid that the stock-out means that the program is going to fold" (Foreit, 4, 1980).

Not only can users' continuity be affected, but the reputation of the program as well.

Additionally, the supervisor is frequently charged with the transfer of the distributor's remuneration. While these payments may not constitute the sole means of the distributor's household support, they are nevertheless a symbol of the esteem and importance in which the organization holds the distributor. In a project in Mexico, 76 percent of the rural distributors reported that they did not receive their payments on time and 3 percent reported that they received no payment. In the following description of the agent's reaction to this situation we see what the effects can be.

"Previous administrations have promised the people in the rural areas many types of programs and support, especially in health services. Buildings have been built and doctors have arrived for temporary periods, but few efforts have had lasting effects. Thus when CAs were promised compensation and then had to wait long periods for their money, they generally

accepted the lack of payment as simply another trick by the government. After a while some became disinterested or angry and dropped out. Some stayed for many months without payment, medicines, or contraceptives. Much depended upon their supervisor, the attitude of the community, other obligations, and their reason and motivation in accepting the job. The delays caused more serious problems in morale than in economic hardship, since the amount rarely was of major significance to the family" (CPFH, 58, 1981).

There is no easy solution to delays associated with impassable roads, turnover among supervisors, etc. However, remedies that can be taken to expedite central office payment of training per diems or transportation compensation should be administered.

Personnel motivation is closely allied to job challenge and potential which can be provided through financial remuneration and job perquisites, continuing education, and career development opportunities (Hornby, 239-242, 1980). In CBD projects a variety of payment schemes have been employed with similarly varied results. Perquisites have included such things as free or priority medical attention for agents and emblems or other status symbols such as jackets or kits for trained traditional birth attendants.

C. CONTINUING EDUCATION

Pre-service training in CBD projects is frequently rudimentary, and seldom is a systematic association made between expected job requirements and consequent content of training. Even when pre-service training is adequate, problems are inevitably encountered in practice that require skills not covered or not fully learned earlier (Colle, 6, n.d.). Indications are that learning is more

effective if it takes place within the context of real problems encountered (Clark, 1980). The experience emphasizes the relative importance of in-service training as an essential element of supervision. In the Matlab Project in Bangladesh, the supervisors meet every two weeks with their distributors for the purpose of reviewing progress, identifying field problems and discussing appropriate solutions. In addition, there is the introduction of any new skills or concepts to be added to their jobs. Yet most supervisory arrangements do not yet adequately reflect this need.

Given acceptance of the need for continuing education, the issue of the balance between group training and individualized support is raised. Where continuing education is stressed at all, it usually includes periodic group sessions. These sessions can be conveniently combined with the tasks of payment and re-supply. Perhaps more importantly, agents find that their problems are not unique. Through group sessions, agents help each other in resolving common concerns and develop a strong esprit de corps in the process. However, not all agents participate in these sessions. Those who fail to attend may be the least motivated, least capable, and most isolated and therefore in greatest need of supervisory support. As mentioned earlier, in the chapter on Selective Supervision, in the SINAPS project in Guatemala, the rural health promoters are required to attend weekly supervisory/training sessions. When the promotor misses more than two sessions in any one month, this automatically triggers a supervisory visit to the promotor in the field (de Leon Lechtig, 7, 1980).

The question of isolation is of special concern to projects that are expanding into increasingly remote areas. Not only are these areas difficult to visit individually with any regularity, but the workers often find it equally difficult to travel to in-service meetings. These very workers especially stand to benefit

from periodic collegial associations that stress their integral role in the overall project. It also appears that these are the individuals who most appreciate and benefit from personal contacts by their supervisors. The trade-offs between morale benefits and costs of supervision, along with associated implications for transport requirements are increasingly important unresolved issues. Thailand provides an interesting dilemma in this regard. Distributors lost interest when supervisors did not visit regularly, and supervisors tended not to visit the more remote areas because transportation is so expensive and they received no travel allowance.

Conceptually, one can visualize a matrix with field tasks and problems on one axis and individual workers on the other. Some problems are common to many or all workers and are therefore appropriate subjects for in-service training in group sessions. At the same time, some workers are exceptional in the array of problems they encounter unsuccessfully. These workers are prime candidates for selective supervision. Both selective supervision and group continuing education need to be increased, but in balance (Burintratikul & Samaniego, 49, 1978). As projects expand in geographic coverage, selective supervision becomes more critical, but this must be provided in a way that ensures minimal supervision for all, on both individual and group bases.

As CBD programs develop increasingly heavy mixes of family planning and health interventions, the idea of gradual phasing in of individual interventions gains in popularity. This logically leads to greater demand for more phasing in the training process. The introduction of new skills as they become needed places new demands upon the supervisor's role as continuing educator. Whether or not this training takes place in groups or in more remote areas on an individual basis the supervisor in these circumstances must be prepared to initiate, impart and evaluate this knowledge transfer.

However, it must be kept in mind in program development that "supervisors need preparation in getting groups to work together, share experiences and knowledge, etc., in order to make monthly in-service training sessions useful" (CPFH, 133, 1981).

D. PERSONNEL DEVELOPMENT

CBD projects relying upon part-time community workers are inherently constrained in providing opportunities for career development. For worker motivation, therefore, they must rely mainly upon preservation of current job satisfaction and challenge. This reinforces the importance of continuing education and supportive supervisory contact. The latter becomes more needed over time as the work becomes more routine (Colle, 5, n.d.).

CBD project possibilities for career development are not totally lacking, however, and should be tapped to the maximum extent possible. Some projects have employed traditional birth attendants, shopkeepers, or government civil servants as agents. For such individuals, their additional agent status in itself represents job enrichment and development. As previously mentioned in our discussion on supervisor selection, the most successful agents are occasionally considered for promotion to supervisory positions. As in other fields, a competent worker does not necessarily make a competent supervisor. On the other hand, it is a principle of management that a supervisor should be able to perform the tasks and have first-hand acquaintance with the problems of those he supervises. It might be assumed that successful agents have an understanding of the reasons for their success that could be used in the supervision of others. However, this cognizance of the former agent's ingredients of success may not actually be so clearly formulated in that individual's own mind. To communicate these concepts

effectively to his former peer group, it may well be necessary to elaborate upon them in a special component of the supervisory training. In some projects, individuals become supervisors simply because of their position as, for example, nurse in a project health center, regardless of personal qualities for supervision. This tends to create an artificial barrier between "system" supervisors and "community" workers, thereby possibly alienating workers and thwarting upward mobility.

Another variation on the same theme is to afford agents the opportunity for further training as para-professionals. The need for such persons is frequently substantial anyhow, and becomes progressively greater as CBD projects take on multi-purpose tasks.

Although the experience has not yet been evaluated in the Sudan CBD Project, the distributors exhibiting superior performance during training were earmarked for additional training as sub-supervisors to provide backup for the regular supervisors (Lauro, 11, 1980).

The above suggestions emphasize growth into and through the "system." A different approach stresses enhanced status within the community. This relates to the role integrity function of Colle cited earlier. Given their non-professional status, agents are in particular need of a system for preserving the integrity of their work. A supervisor can explain the worker's role to a community and its leaders, thus showing how the person can contribute to community welfare (Colle, 5, n.d.).

Which approach to personal growth is more viable will depend upon local circumstances. To the extent that growth within the service delivery system itself is feasible, removal of artificial barriers to growth is paramount. To the extent that agents do not have the pre-requisites or interest to move within the system,

enhancement of status within the community is crucial and requires extensive interaction of the supervisor with the community.

E. COMMUNITY RELATIONS

This interactive relationship between representatives of the program and members of the community is often mentioned during the early stages of program development, and then quite frequently the maintenance and growth of this relationship is subsequently forgotten, or at least not mentioned. Surveillance and facilitation of this relationship in any way possible is an important aspect of supervisory support.

The positive benefits to be reaped through listening to the community are many. In the Bohol project in the Philippines the municipal districts were zoned into areas to be assigned to the midwife distributors. This was done in consultation with the community leaders who in turn effectively encouraged families in each zone to contribute or renovate buildings to serve as primary health centers (Parado, et al., 104-105, 1980).

The need for involving the community cannot be too strongly emphasized. For example, during an early stage of the APROFAM project the distribution sites were chosen without proper attention to the appropriate community attitudes. Upon implementation of the program, some areas showed no acceptors. Upon investigation it was revealed that those particular communities were clearly against the program (McEvoy, 4, 1978).

In the Sudan CBD program considerable attention was paid to orienting the community leaders with clearly defined goals in mind:

1. To acquaint community leaders in each village with the program and elicit their support and assistance;

2. To learn more about the concern of villagers as they relate to the project and to seek out suggestions that might help us in planning the implementation phases;
3. To explain the project formally and clearly to the communities in order to prevent the spread of misconceived notions about the project's goals;
4. To ensure the support of the male population, since they would not otherwise be addressed as directly as village women during implementation (almost all village council members are men).

(Matthews, 10, 1980)

The village council along with the midwives and other health personnel of the village would assemble in a public area, and the project staff members would give a thirty-minute presentation. A question and answer period would follow during which some very useful suggestions were made by community members. It was posited that perhaps some of the success of these sessions could be attributed to the lead staff member's working familiarity with passages relevant to family planning found in Islamic literature.

Another means of motivating some segments of the community to accept and in some cases support the work of the distributors is through financial incentives. In Thailand:

"Recruitment of District Health Officers, aside from numerous contacts made through existing bureaucratic channels, as part of the field staff reflects a well-planned strategy in solicitation of effective and permanent cooperation from local government officers. An incentive of 2.5 cents per cycle of pills and 15 cents per dozen of condoms sold is also given to these

local officers to motivate them for better performance"

(Burintratikul & Samaniego, 50, 1978).

Brazil has gone further in paying local physicians a monthly remuneration in the hope of gaining their active project support. This payment represents a substantial portion of the project budget and becomes an increasing burden as the project expands. This monthly fee for giving talks and seeing occasional new clients has been documented as ineffective. "It has been estimated that total program costs could be reduced 20-30 percent with the elimination of this fee to local physicians" (Gorosh, 9, 1981a). An alternative approach to the clinical dimension of the CBD program must be chosen. Hopefully, any negative responses from physicians who have been receiving monthly payments will be attentively offset (Gorosh, 4, 1981b).

Other examples of community support of CBD can be found. In Kenya it was determined that communities were quite willing to pay, rather than be paid, for the local project presence (Were, 1981). The point is that if commitment is obtained through other than financial channels, then local finances can contribute to, instead of draining, project resources and in addition serve as a tangible symbol of local participation and control.

Another example comes from Indonesia, where it was found that local community structures actually served as deterrents to formal project supervision, since it was felt that the communities themselves were providing the needed surveillance. In fact, however, the community groups represented the local elite, rather than the community as a whole and were therefore not providing the effective leadership assumed. The point here is that the wrong type of local commitment for the wrong reasons can actually be counter-productive to the intended project image and objectives.

An important key to sound management is the linking of personal and organizational goals. Similarly, solid inter-organizational linkages are built upon fundamental mutuality of separate interests. Tangible rewards may be, in some cases, an early means of securing support. In no case, however, should they be the sole or permanent means. Their effect is likely to be limited and temporary, whereas secondary resentments created through what are considered special privileges can be permanent. Moreover, the underlying motivation for support provided must be critically appraised. As the adage goes, the selection of certain friends makes enemies unnecessary. While it is difficult to generalize in more concrete terms, the importance of practical, concerted action to gain local commitment to family planning cannot be underestimated as programs increasingly take the form of broad development efforts.

These activities involve the work of the supervisor in early stages of the program's introduction into the community. However, the supervisor's commitment does not end there. The New Strategies program found that the organization and/or participation of supervisors in community talks was an extremely important supervisory function. This was particularly true in the urban modules that were more receptive to this kind of open forum than were their rural counterparts (CPFH, 68, 73, 1981).

Another interesting suggestion emanating from this same program was that planned overnight visits by the supervisors to the more remote rural districts could prove useful. Not only could they provide more time for direct distributor supervision, but they would also provide greater opportunity for community talks and joint home visits. It was even suggested that perhaps the community would become involved in providing shelter and meals for the visiting supervisor (CPFH, 78-79, 1981).

Any way, formal or informal, in which the supervisor can increase contact with individual community members, as well as community leaders, should be considered and encouraged. Solicitation of informal feedback concerning dissatisfaction with an individual distributor, rumors about specific interventions, and unmet needs and desires of the community can potentially short-circuit long-term discontentment with the program.

V. ORGANIZATIONAL SUPPORT ARRANGEMENTS AND MANAGEMENT OF SUPERVISORS

Every successful supervisory system has as a backdrop an organization that lends it the resolve and logistical support that enables the supervisors to effectively execute their jobs. This support extends from the provision of effective means of transport through the oversight and evaluation of the supervisors themselves. In this section we will examine some of the overall organizational factors influencing the performance of the supervisor and hence the program.

A. ORGANIZATION OVERSIGHT

Arrangements at central levels must evidence commitment, sensitivity and ability to support workers at community levels. While this is an obvious requirement, in practice the status accorded minimally trained field workers is frequently inadequate, as noted in a UNICEF study (Colle, 17, n.d.). In a 1978 report on the CBFPS program in Thailand, it was observed that although field level supervision was functioning well,

"...experience reveals that regular supervision of the field operations staff from the central office is still needed effectively to oversee the performance of district supervisors and village distributors. However, because of the lack of an adequate number of field operations personnel, the required field supervision is not made on a sufficiently frequent basis, i.e., once a month" (Burintratikul & Samaniego, 49, 1978).

Considering the exceptional importance attached to the overall management infrastructure in Thailand, this is a telling finding for CBD projects generally.

The Profamilia program in Colombia has provided one zone director for every ten field supervisors. In addition, the central office at the national level accepts overall responsibility for management, policy-making, and budgeting. In spite of this level of support, program growth has required subdivision of the central office into departments dealing with information and education, statistics and evaluation, finance and accounts, and administration and supervision (Echeverry, 144-145, 1975).

Experience in Mexico has suggested to Michele Schedlin (1981) the importance of an overall project trouble-shooter without fixed organizational responsibility. Such a person facilitates communication and adequate handling of a host of personal, political, and other problems which tend to be overlooked by busy managers within the formal organizational structure. Moreover, being somewhat outside the formal system, the trouble-shooter can be more objective and supportive, rather than threatening, in dealing with problems. The role of trouble-shooter is similar to that of "integrator" proposed and employed in some business firms. The suggestion raises the question, however, whether managers should not fulfill this problem-solving role instead of devoting excessive attention to routine administrative procedures. Perhaps management training and competence is needed more than trouble-shooting. Even if the role of trouble-shooter can be justified, it is not clear whether it should be filled locally or by an ex-patriate affiliated with the project. Somehow, the individual should be adequately separated from the "system," yet able to work effectively within it. The issue bears further consideration, but we are not prepared to recommend that AID insist

upon a trouble-shooter position in every project it supports. It is apparent, however, that along with provision for adequate supervision, projects should ensure greater support for the supervisors themselves.

B. DIRECT SUPERVISORY ARRANGEMENTS

Some programs divide supervision into two distinct categories that Fendall calls the disciplinary-administrative and counseling-educational roles (Colle, 9, n.d.). Health professionals may assume training and technical guidance responsibilities, while others take on administrative/control tasks. In one section of the Narangwal project, even technical responsibilities for family planning and child health care were divided between two supervising physicians. As a result, there was some evidence of confusion and reduced levels of worker performance.

The New Strategies Project in Mexico has introduced team supervision as an experimental variable involving health professionals and social workers. In Sudan, monthly supervision and retraining has been provided by field staff, whereas day-to-day supervision is available through nurses in health posts and village dispensaries.

The Kortens (237-269, 1977) make a strong case, with examples, for supervision by teamwork, rather than supervision by procedure. This translates into single lines of supervision in place of multiple functional links. This tends to conform with prevalent management thinking, especially where work tasks are relatively simple and "programmable," as they have been historically in CBD projects. As these projects include a broader range of services with minimally trained agents and supervisory personnel, however, the notion of one-to-one supervisor-agent relationships is increasingly subject to challenge. Thus, the results of projects such as the one in Mexico will be followed with considerable

interest. In fact, the concept of team supervision deserves further investigation under selectively varied service and geographical conditions. To the extent that the value of team supervision is confirmed, even greater strains will be placed upon already scarce supervisory resources, and logistical problems may be aggravated as well.

For the present, arrangements involving single lines of field supervision would seem to be the rule. Where exceptions can be justified, the always-important principle of establishing clear distinctions in responsibility becomes especially critical. Perhaps the age-old management scheme of line authority distinguished from functional consultative roles will need to be re-defined for family planning.

The Agent/Supervisor Ratio

Projects tend to be quite explicit in defining the number of agents to be covered per supervisor. The designated ratios tend to be arbitrary, vary considerably among projects, and take little or no direct cognizance of tasks to be performed and consequent time requirements in individual cases. There is an inherent danger that if assigned tasks exceed what can be accomplished, staff members set their own priorities and may leave unattended certain critical responsibilities. Variances in terrain, population density, and general accessibility of agents within a project are sometimes overlooked altogether or, at best, given inadequate consideration. Moreover, project managers frequently disregard the role of supervisors in linking agents to available resources, resulting in the need to interact with a variety of community and other organizations, as well as with the agents themselves (Colle, 6, n.d.). As a consequence of these factors, it is not uncommon to find that the established span of control is excessive and intensity of supervision is inadequate.

Fortunately, this gloomy picture of the "norm" is not universal. A relatively rudimentary planning exercise in Zaire, for example, identified thirty specific tasks of supervision. Whereas the need for any supervision had been questioned initially, this exercise provided convincing evidence, not only of its potential value, but that substantial support was necessary to realize this potential (Wawer, 1, 1981).

In addition to documenting supervision needs, a task analysis in Brazil proved useful in isolating unnecessary supervisory effort, thereby paving the way for more efficient utilization of scarce supervisory resources. A study of supervision effort in Guatemala has contributed to previously sparse knowledge of factors related to supervisor effectiveness. Those factors examined included: (1) teaching/training; (2) norms/standard-setting; (3) administration; (4) discipline/control; (5) perceived agent ability; and (6) personal attributes (Bakken, 75, 157, 1981). The study also produced methodological insights into the assessment of both style and content of supervision. A related study is currently underway in the Strengthening of Health Services Project in Egypt to appraise worker knowledge and skills as a basis for establishing needs for supervisory support. Written criteria for selective supervision have been developed and are currently under intensive study in Brazil.

The growing interest in such studies is encouraging. Unfortunately, however, they are still the exception in projects generally. Moreover, these isolated investigations have tended to be too sophisticated for widespread application. An urgent need exists to consolidate and streamline these efforts into simplified procedures for the functional analysis of supervision to be applied routinely in project planning, as well as in the later evaluation of supervisory performance.

Frequency of Supervision and Travel Implications

Systematic functional analysis of the content of supervision is just one element in the determination of supervisory load. Another concern is the frequency of performance of identified tasks. This in turn is a function of the number of personnel to be supervised, as well as the frequency and mode of supervision.

To facilitate concrete discussion of the resulting issues, we refer to a mathematical model developed for analysis of the organization of basic rural health services (Reinke, 1981). Mathematical relationships derived from the model, and summarized in Appendix 5.1, reveal that radius of coverage (distance from home base to service periphery) affects two parameters of importance to the present discussion.

First, the size of the target population is a function of the square of the radius of coverage, not the travel distance itself. Thus, if agent outreach is to be cut in half, say from a maximum of six miles to three in the interests of improved access to clients, the number of agents must be quadrupled. Since supervisors generally rely upon mechanized transport and are therefore more mobile than agents, there is a greater tendency to restrict the travel of agents and consequently to expand the number of agents per supervisor beyond reasonable limits. For example, if the travel outreach capability of supervisors is five times that of agents, this suggests a ratio of 25 agents per supervisor on logistical grounds. This is likely to reduce the frequency of supervision to intolerable levels.

The second implication of the model relates to the average travel distance (or time) required. If agents are uniformly distributed up to, say, 12 miles from the supervisor's home base, it would seem intuitively that the supervisor would have to travel six miles on the average to reach an agent. It can be shown

through application of integral calculus, however, that the average travel distance is two-thirds, not half, of the maximum. Thus the supervisor in question would have an average round trip of 16 miles, rather than 12.

Relatively large proportions of time must be spent near the periphery of a service area. This is illustrated by the following example, assuming relatively uniform population density. Visualize two circles, one six miles, the other twelve miles from the same center (supervisor headquarters). Given the magnitude of a circumference,

$$2\pi \cdot \text{radius},$$

the circumferences of the two circles are 12π and 24π respectively. If population, and therefore agents, are uniformly distributed, there are twice as many near the circle of larger circumference (further from headquarters) as there are near the smaller circle.

The preceding reasoning assumes uniform population density, circles of coverage (thereby leaving small areas uncovered), and straight-line travel between points. These assumptions are seldom satisfied fully in the field and disregard difficult terrain and existing road networks. However, the principal findings remain essentially correct. Whereas population density may be lower in remote locations, for example, the distribution of agents may remain relatively uniform because of their limited mobility. Due to arduous travel conditions and more dispersed populations, they may simply cover fewer people in the remote locations.

We now combine the two concepts relating to: (1) number of agents supervised in a specified area; and (2) travel required for supervision. Let us suppose that a supervisor spends forty percent of his available time for supervision and ten percent for travel, leaving half his time essentially unutilized. The decision might naively be made to double his radius of coverage. This, however,

would quadruple the number of agents, and therefore content of supervision, and double the amount of travel required, resulting in

$$(4)(40) + (2)(10) = 180$$

percent utilization of available time, an obviously infeasible solution.

A more reasonable solution would seem to be a doubling of the supervisor/agent ratio. This would involve an increase in the supervisor's radius of coverage by a factor of $\sqrt{2}$ and a corresponding increase in travel. The result,

$$(2)(40) + \sqrt{2}(10) = 94$$

percent utilization, is still not quite what is desired. Rather than labor over further calculations, we simply underscore the two distinctly different ways in which the factor of coverage area enters into the determination of supervisory time requirements.

Consider the case in which a supervisor is fully utilized in covering ten agents with monthly visits, spending 80 percent of his time in supervisory contact and 20 percent in travel. The suggestion has been made that the agent/supervisor ratio be doubled and that routine supervision be conducted quarterly, supplemented by selective supervision. What level of selective supervision is possible?

Initially, the travel time per visit will be increased by a factor of $\sqrt{2}$. Whereas each current supervisory contact is, on the average, 80 parts supervision and 20 parts travel, the future pattern will be 72 parts supervision and 28 parts travel. The number of supervisory contacts possible in the future, therefore, will be $72/80$ of the present level, or

$$\left(\frac{72}{80}\right)(12)(10) = 108 \text{ contacts annually.}$$

The routine quarterly contacts for 20 agents will account for 80 of these, leaving 28 contacts, or 3.5 per month over the remaining eight months of selective supervision. Thus, a 17.5 percent rate of selective supervision is attainable.

The illustrative calculations have been admittedly artificial and simplistic. For example, in the earlier discussion of selective supervision, it was observed that the need for supervision is likely to decline over time, a factor not considered here. Nevertheless, the calculations highlight certain fundamental principles. As the range of supervisory outreach is extended (seen in the example of doubling the supervisor's radius of coverage), the span of control is likely to increase disproportionately. This is a very real danger inasmuch as supervisory mobility is typically a less serious constraint than agent mobility. Moreover, excessive span of control will undoubtedly become a more serious concern as questions of content of supervision gain their deserved attention. Finally, supervisor travel is not an inconsequential consideration in view of the natural tendency for the majority of agents to be located toward the periphery of service areas. This factor, too, increases in importance as projects move toward more comprehensive coverage of services to include more remote sites.

C. LOGISTICAL AND FINANCIAL CONSIDERATIONS IN SUPERVISION

Supply maintenance, provision of transport, budgetary allocations and disbursements, and cost control are significant elements of management in their own right. They can also facilitate or inhibit effective supervision and to a degree are direct functions of supervision. It is only as these factors impinge on supervision that they are considered here.

Transport

Transport seems to have been a frequent and troublesome problem in CBD projects. As might be expected, the problems are often manifested where most serious attention is paid to supervision. In Mexico, for example, vehicles were rented for supervisors specifically to improve productivity and coverage, but

in reality the vehicles were frequently not available. Transport, as a result, was a major bottleneck in the New Strategies Project. Even such seemingly mundane issues as the requirement that supervisors possess drivers' licenses presented some difficulty.

Despite maintenance problems associated with the rental agency "...the supervisors proved they could visit more communities and stay longer hours in the communities because of the vehicles" (CPFH, 129, 1981). In a subsequent cost analysis of the program it was found that although "...the use of vehicles increased cost, the cost per agent for supervision with vehicles was only U.S. \$24 compared with U.S. \$34 without vehicles" (Elkins, 10, 1982). In light of this experience the Government of Mexico has decided to provide all supervisors with vehicles.

The Piaui Project in Brazil has relied on public transport for supervisors with reasonable success. Success depends, however, upon regular payment of adequate travel allowances, upon accessibility of agents to public transport, and the efficiency of that transport. Thus far, agents in Piaui have been reasonably close to urban areas, but projected extensions of the project to more remote areas is forcing a reappraisal of travel arrangements and costs. In Thailand supervisors using motorcycles as their means of transport were not reimbursed for gas. As a result visits were often not made.

In a project proposed in Ghana, transport is expected to represent the largest single cost component. In Sri Lanka, where the public transportation system is especially well-developed, supervision of the most distant villages is still discouraged due to the time factor (Colle, 2, n.d.). These two examples are given to emphasize the universality of cost and/or time constraints in supervisory travel. Since tangible costs are associated with the supervisor's time, clear trade-offs are involved. There is need for most extensive analysis of the trade-offs through

modelling to establish optimal modes, patterns, and frequency of travel under varied local conditions. The Bohol Project in the Philippines, among others, has found that horses suit the local terrain at relatively low cost. However, along those same lines, the project in Peru experimented with mules as transport for sanitarians acting as supervisors for community workers (promoters). The maintenance proved prohibitive (as the hills had little grass) and several died, so the rest of the mules were sold and the experiment ended (Holley, 2, 1981). Greater use of modelling techniques could produce additional innovative solutions to the typically pesky and often underestimated mobility problem.

Supplies

Problems of assuring adequate supplies of contraceptives and medicaments hinge on three inter-related questions: How much? When? And through what channels? (Colle, 62, 1980; Colle, 18, n.d.).

A recent study in Brazil (Foreit, 1981a) has shown that about half of the time spent with agents in field supervision is spent in accounting for inventories. A work sample of supervisory post performance showed time spent on supervisory visits: administrative tasks (inventory)--54-81 percent; discussion with distributor--6-28 percent; filling out post performance form--less than 9 percent. Clearly, improved systems for maintaining stock records and for documenting supply usage, coupled with simple inventory models that take account of trends and variability, would be a highly practical, inexpensive means of establishing adequate, but not excessive, levels of resupply.

Frequency of resupply in many projects is tied in with supervisory meetings held for other purposes. This is not necessarily the optimum timing from a purely inventory control standpoint. Again in Brazil, one of the reasons for

selective supervision has proven to be in response to stock outages. With effective inventory control procedures, this reason should seldom be operative. The aforementioned inventory models can readily assess the trade-offs between costly maintenance of excessive safety stocks and similarly costly occasions of special resupply. The models can also reflect fixed periodicity of resupply dictated by considerations other than inventory cost minimization. It is necessary only that supervisors understand and utilize appropriately established supply procedures as a part of their supervisory practice. Since performance monitoring of contraceptive usage is routine, the associated record system should be a natural basis for supply supervision as well.

"Solutions" to the first two problems are based upon the premise that supplies are available but need to be distributed properly. The premise may not be valid where supply lines are long and cumbersome because services are scattered over remote areas. The solution here is obviously shorter, better-controlled supply lines. Some projects have relied upon local commercial channels to ensure the availability of supplies when and where needed. This may be a realistic alternative where a multi-faceted commercial system has necessarily developed more sophisticated procedures than are feasible in a small government project. In other cases it might be reasonably asked why the CBD project cannot develop similarly streamlined procedures of its own.

CBD projects have generally encountered relatively little difficulty in making contraceptive supplies available. This is not likely to be the case in the future, however, for more complex projects distributing a greater array of contraceptive methods plus a large variety of medical and non-medical items obtained from several sources. Political and bureaucratic problems are bound to arise to be handled as best they can be under local conditions. Within these

constraints, however, there is much that can be done to improve distribution procedures through application of simple, modern inventory control techniques.

Budgeting and Accounting

There is considerable support in the literature for decentralization of management functions in order to assure flexibility in response to local conditions and to facilitate timely decision making and action. The Indonesia family planning program in particular is notable for its budgetary flexibility. In his listing of supervisory functions, Heegaard notes under finance some of these decentralized functions:

"...clear guidelines for spending program funds, accounting and auditing services for budget control, workable vouchering system for needed supplies, funds available when needed..." (IFW, 68, 1975).

Effective decentralization requires well-developed systems and competence for local decision making and accountability. The issue revolves around the principle of acquiring advance approval for action and that of retrospective justification for actions already taken. While excessive centralization of decisions on even the smallest matters is common and to be avoided, the caliber of management competence at the levels of field supervision of principal interest herein is such that further decentralization of budgetary responsibility is not a major issue. Nevertheless, brief comment on a couple of financial matters is relevant.

First, planning for supervision requires not just provision of supervisors, but provision for their support as well. The classical case of Nicaragua, in which financial support for supervisory travel was not available, is obviously to be

avoided. By the same token, remuneration to agents for travel to centrally-held training or supervisory sessions is necessary and has sometimes been inadequate.

Second, the remuneration of supervisors is a matter of some concern. In some cases supervisors are strictly salaried, whereas in others they are paid a commission on agent sales as an incentive to stimulate improved agent performance. The issue of supervisor motivation is not fully resolved, but there is little evidence to date to suggest that financial incentives based on agent performance serve as a very direct or influential motivating force. Our conclusions are necessarily tentative, however, because the evaluation of supervisory performance generally is a virtually untouched field in need of serious investigation.

D. COMPATIBILITY AND BALANCE OF SUPERVISORY TASKS

The many tasks of supervision generally fall into four basic categories: (1) performance monitoring; (2) training; (3) agent support; and (4) re-supply. While these tasks have been discussed in detail in earlier sections, we now discuss their synergistic effects. Some of the tasks are performed in the field in contact with individual agents; others are performed in group meetings. When, where, and for whom the tasks should be performed remains a continuing dilemma lacking a uniform answer.

The need for performance monitoring is likely to be heavy in early project stages and largely selective thereafter. Training through continuing education is closely associated with performance monitoring, and needs can be expected to follow a similar pattern. An additional feature of training is that group problem-solving efforts surrounding common issues are probably more applicable during project start-up, whereas individual problems are likely to dominate later. There is

a continuing need for supervisors to provide moral and other support to agents, but the need seems to be especially keen for more isolated personnel and increasingly important over time to maintain interest when services become routine and humdrum. Support under the latter conditions might be provided, in part, by introducing new and challenging activities through an expanded scope of services. Group supportive activities can be useful in developing esprit de corps, but activities individually supportive of the agent in relation to the community and other agencies are also necessary. In Bangladesh, for example, field visits have been combined with bi-weekly meetings. Re-supply increases in importance with project maturity and increased service activity. Problems of re-supply may be especially critical in the early life of a project, however, when usage rates are uncertain and highly variable.

The foregoing generalizations are of limited practical value in particular circumstances, where both conditions and appropriate actions vary. Nevertheless the generalizations point up the universal need for appraisal of the content of supervision that is project-specific and adequately detailed, analytical, and dynamic.

E. EVALUATION OF SUPERVISOR PERFORMANCE

In reviewing the literature on supervision relevant to CBD projects, from the projects themselves and elsewhere, three things have become apparent. First, the documented experience is generally inadequate in practical terms. Second, greatest attention has been given to performance monitoring. Information on the selection and training of supervisors, community participation, and supportive functions of supervision is especially weak. Third, in contrast to the relative attention paid to appraisal of worker performance, there is a virtual void in the literature on evaluation of supervisor performance.

Some projects, e.g., in Brazil and Thailand, have utilized monthly meetings of supervisors to appraise differential achievement of targets and to give instruction regarding common problems. The CBFPS Project in Thailand is concerned with supervision efficiency and wrote into the program two indirect controls on supervision. The first is a record of supervisory visits to distributors that is signed by both parties and kept by the distributor. The second control procedure asks distributors to send a post card into headquarters during any month in which the supervisor fails to visit. This system has only been used in one area. Formalized monitoring of supervisor performance has not gone much further.

In some respects, the latter finding is not surprising, since the content of supervision has been generally ill-defined; therefore, the basis for evaluation does not exist, even if the desire does. The first principle of performance evaluation is target-setting. This is as true in relation to supervisory performance as in relation to service performance.

Because of the problem-solving nature of supervision, it is tempting to argue that supervisory tasks are not easily codified and therefore not readily subject to evaluation. Supervisors are to "supervise" or, somewhat more specifically, supervisors are to "solve problems as they arise." What more is there to say?

Physicians are acquainted with the scientific underpinnings of medicine and with the analytical basis for applying this knowledge to particular circumstances. In short, physicians are trained to be problem-solvers. In delegating primary care responsibilities to para-medical personnel, however, some of the scientific understanding of the basis for individualized actions has been sacrificed. In its place it has been necessary to develop clearly defined procedures, standing orders, and competency-based training. Numerous examples of the

successful transfer of this basis for action have accumulated. When asked to describe the nursing function, there was a time when the answer, "a nurse is what a nurse does," was considered satisfactory. This is no longer the case.

Similarly, M.B.A.-level managers are taught the analytical basis for management problem-solving. This is obviously inappropriate for field supervisors in CBD projects. The equivalent to standing orders is needed for supervision. There is, in fact, "more to say" about supervision.

The first step in implementing the necessary changes is systematic analysis of the functions and content of supervision as an integral part of project planning. This can lead to a determination of supervisory resources needed, clearer specification of and attention to the training needs of supervisors, and standards of supervisory performance. Methods of simplified functional analysis of supervision are then needed for application periodically to monitor the effectiveness of supervision and to respond to changing needs. Along with the monitoring, of course, goes continuing education, support of supervisors, and the other tasks that have been discussed in relation to service workers.

Reference has been made to a few scattered attempts at analysis of supervisory functions and content. The subject remains, however, the principal challenge to improved effectiveness of supervision, which in turn is a significant factor in CBD project performance.

F. RETENTION OF SUPERVISORS

Information on retention rates and duration of employment for supervisors is inadequate. Moreover, simple quantitative measures of physical presence are not very useful, since supervisors sometimes become effectively non-functional, with results that are not qualitatively very different from actual departure from

the supervisory ranks. In some projects, shortages of supervisory personnel have led to excessive spans of control for those who are employed and consequent impairment of performance and morale (Colle, 2, n.d.).

Apart from unrealistic schedules or numbers of workers assigned to supervisors, their ability to function has sometimes been hampered by the imposition of non-supervisory duties and by unsatisfactory arrangements for travel and supply. Fortunately, these problems have been recognized in many cases and program modifications have been made to improve performance, morale, and consequently retention.

One of the factors affecting the morale of supervisors is their position vis a vis the permanent health structure of the region or country. In the New Strategies project supervisors were not given positions within the Ministry of Health. They were awarded contracts instead. These contracts provided temporary positions and did not offer civil service status or insurance benefits that were enjoyed by Ministry of Health employees (CPFH, 1981).

The CBFPS Project in Thailand employed the field (second level) supervisors as full-time staff of the agency, while the district supervisors (who directly supervise distributors) were part-time employees. In addition, these district supervisors' salaries were lower than in comparable government jobs. It was postulated that the greater motivation evidenced among the field supervisors was at least partly attributable to their more permanent status and more equitable pay level (Chen, 1981).

In Nigeria, the Basic Health Services Program has a system of progressive supervision. Community Health Aides are supervised by Community Health Assistants, who are supervised by a Community Health Officer, who is in turn responsible to the Senior Public Health Sister, Division Superintendent, or Health

Officer. It is necessary to plan a regular system of advancement for these workers to other levels in the supervisory personnel structure or to other assignments in order to maintain interest and enthusiasm in the work.

In summary, retention and on-the-job performance and satisfaction of supervisors are inter-related and similar in their effects on project outcomes. We recall Herzberg's point (Korten & Korten, 277, 1977) that improvements in the job environment can remove sources of personnel dissatisfaction, but satisfaction is derived essentially through job enrichment. Although project information is inadequate to make detailed judgments on this matter, it is clear that overall mechanisms for the supervision and evaluation of supervisors have not received the attention they deserve in CBD projects. This shortcoming is critical and is highlighted in the final section of this paper.

APPENDIX 5.1

Travel Distance in Relation to Size of Service Area

If each supervisor is to cover agents located within a circle of radius (R_s) of the supervisor's headquarters, the area of supervisory coverage (C_s) is:

$$C_s = \pi R_s^2.$$

Each agent in turn covers a portion of this area (C_a) with radius of coverage (R_a), where

$$C_a = \pi R_a^2.$$

Suppose, for example, that $R_s = 12$ miles. Then each supervisor must travel as much as 12 miles to supervise agents over an area

$$C_s = 144\pi \text{ (approximately 452) square miles.}$$

Suppose further that there are ten agents in this area. Then, on the average,

$$C_a = 14.4\pi.$$

Since, in this case,

$$14.4\pi = \pi R_a^2,$$

it follows that

$$R_a^2 = 14.4,$$

or

$$R_a = 3.8 \text{ miles.}$$

Observe that, whereas C_s and C_a are in the ratio 10:1, the ratio R_s/R_a is $\sqrt{10}$:1.

VI. PRINCIPAL RECOMMENDATIONS FOR ACTION AND RESEARCH

A. RECAPITULATION OF EXPERIENCE

The numerous facets of supervisory experience recounted in preceding pages have produced a discernible profile that is worth reviewing as a backdrop for future recommendations.

The clearest message transmitted through CBD program experience is of the underlying need for a more structured scheme of supervision. Admitting that supervisors are essentially solvers of problems that inevitably exhibit a degree of unpredictability, the character of CBD services, agents and field supervisors nevertheless encourages substantial standardization in the monitoring of work. Systematic appraisal of supervisory functions should lead to clearer job descriptions, supervisory guidelines, and manuals of procedures.

Given specification of the supervisory job to be done, actual performance is a function of the supervisor's prior qualifications, pre-service training, and continuing education and development. The latter, in response to real field conditions, is probably the most important and certainly the most neglected. For pre-service training, much greater effort needs to be devoted to the development of model curricula and individual training modules utilizing a variety of modern teaching techniques and materials. Among the necessary prior qualifications, leadership potential is undoubtedly the most critical but clearly the most elusive as well. About all that can be said with confidence on this aspect is that irrelevant restrictive civil service requirements only serve to hamper the search for highly motivated leaders.

The disciplinary/administrative functions of supervision have been distinguished from the counseling/educational functions. Supervision is typically weakest in the latter regard. In particular, supervisors need to give greater attention to continuing education, enhancement of agent task assignments and skills, and support of agents in community relationships.

Performance monitoring should be based upon a few well-chosen indicators which the supervisors themselves help to select. Comparative analysis of indicators should identify imbalances in the service program (e.g., inadequate attention to nutritional deficiencies) and individual agents selectively in need of supervision. Supervisor training in quantitative methods is needed in order to ensure productive use of the analytical capability.

The principle of selective supervision is heartily endorsed, acknowledging its implications. In particular, the usual need for greater supervisory effort in early stages of program implementation suggests that the agent/supervisor ratio be modest initially and gradually expanded.

More generally, we have noted that an excessive span of control and requirement for travel can be anticipated for supervisors on theoretical grounds, and such excesses have been experienced repeatedly in practice. Monitoring and logistical difficulties are likely to be aggravated in the future as integrated packages of services are offered to increasingly remote populations.

Discussion of any aspect of management can hardly conclude without consideration of the virtues of decentralization. The advantage of maintaining the flexibility to permit timely response to local conditions is apparent. Whereas centralized decision-making requires advance approval for action, decentralized decision-making rests on the principle of post-facto accountability for actions taken earlier. Provision for the monitoring and accountability of supervisory

performance has been inadequate to non-existent in most CBD programs. In summary, a number of weaknesses have been identified in the supervision of CBD agent performance. Nowhere are most of the weaknesses more apparent, however, than in the management of the field supervisors themselves.

The interpretation of reported experience under various headings has already led to a number of recommended actions and investigations. A separate section focused on recommendations is presented, in addition, to serve two purposes:

1. The section highlights and elaborates upon the principal supervisory issues identified for resolution.

2. It integrates several individual concerns into a coherent set of related recommendations. For example, improved monitoring of performance will not be achieved through perfection of the management information system alone. Supervisor training in the value and use of quantitative methods is also necessary, along with an effective program of continuing education for the selective upgrading of performance.

In principle, the major supervisory shortcomings of CBD programs fall into two categories. In some cases, failure to apply well-established management principles leads to clearly defined recommended courses of action in accordance with documented experience in other fields. For instance, well-established decision rules for maintenance of adequate stocks of commodities are applicable and should be followed in CBD programs as in other circumstances. In other cases, solutions to problems peculiar to CBD programs are not as clear-cut and require further research.

The distinction between recommended action and research is frequently less clear in practice, however, than would appear to be the case in principle.

Decisions based upon expert judgment applied to existing circumstances can lead to immediate improvement but should be followed by closely monitored action research to achieve the refinements and adaptations necessary in CBD programs. The need and procedures for more systematic record-keeping and appraisal of commodity use is apparent in integrated health/family planning programs, for example, but refined details concerning frequency and source of re-supply may have to be developed through field experience. In short, improved supervision need not await sophisticated research results, but this is not to deny the place of formal investigation of supervisory practice.

Accordingly, the recommendations that follow are organized topically. Under each heading suggestions for immediate action are given, along with specific aspects of the issue worthy of research. The section concludes with more detailed proposals for addressing three of these research questions.

B. TOPICAL SUMMARY OF RECOMMENDATIONS

The following paragraphs offer overall recommendations concerning the supervisory role and organization. Consideration is then given in logical sequence to specific questions of: selection and retention of supervisors; their training; performance monitoring; personnel development; the supervisor in relation to the community; supervisory supportive services; and evaluation of supervision.

Overview of Supervisory Functions

The principal tasks of field supervisors include performance monitoring, upgrading of agent skills, effective liaison with community and professional groups, ensuring adequate logistical and similar support to agents and, possibly, technical support involving direct provision of clinical services. It is essential that every project develop job descriptions outlining these functions within the context of the

particular job environment. So that supervisory procedures are practical and clearly understood, the job descriptions should be complemented by manuals of supervision and standards of performance. It is unrealistic to expect that optimal procedures and standards can be established at the outset. Indeed, further experience and analysis will still not yield universal guidelines concerning, for example, the ideal balance between continuing education and logistical support activities or the most effective approach to community relationships. Nevertheless, thoughtful appraisal can provide realistic targets that can serve both as a rallying point for team effort and as a tangible framework for appraisal and adaptation.

In addition, carefully designed functional analyses of supervisory effort are recommended to provide the objective data needed to fine-tune supervisory practices under varied patterns of services mix and geographic dispersion of agents. Such research would serve three purposes.

First, it would document existing practices and highlight serious imbalances. An investigation in Brazil, for example, revealed that inordinate amounts of time were being devoted to the logistical function (inventory control). While the research was not able to prescribe optimal levels of effort in this regard, it did identify an area in which obvious improvements could be made.

Second, the functional analyses could provide the basis for more realistic standards of performance and resource allocation. Time required for travel, transport needs, and time spent in actual supervision are among the factors of supervision that could be accurately measured through functional analysis.

Third, the assembled data could be used to project the implications of possible modification of supervisory patterns. For example, the effects that selected changes in frequency of supervision or expansion of services to more

remote areas would have on levels of supervision could be established with confidence.

In summary, supervisor/agent ratios applicable to varying local circumstances can only be determined with reasonable validity from functional analyses based upon relatively simple measurements.

Apart from consideration of the functions of individual field supervisors, the matter of supervisory relationships deserves attention, especially three aspects of these relationships.

First, the distinction between administrative authority and technical consultation should be made clear in job descriptions and organizational practice. A team spirit is highly valued and is encouraged through designation of a single team leader. Technical expertise from, for example, clinicians and social workers, is especially important in projects offering comprehensive services, but final decision-making authority should remain with the individual field supervisor. Leadership qualities are therefore more important in that person than technical competence.

A second, related recommendation concerns team supervision, in particular the employment of male/female pairs. The general scarcity of qualified supervisors argues against this arrangement. Current trials of the approach should be observed with interest and carefully analyzed, but pending their outcome, wider application is not recommended.

The third aspect of supervisory relationships to be underscored is that involving associations with professional groups and community organizations. Recent case studies, notably those of David Korten and his colleagues, have indicated the importance of informal relationships, in contrast to hierarchical lines of authority, in the management of social development. Because CBD projects

have been virtually silent on the subject to date, it is an area of needed research. Under what conditions and to what extent, for example, should community agents be selected by and accountable to local community organizations? Further, how can the field supervisor help to motivate the community at large and to enhance the status of the agent in the eyes of the community? In this regard it is noteworthy that the work of Miriam Were (1981) in Kenya suggested that the actions of Village Health Committees may be more important to the use of services than the presence of a dedicated village worker.

Supervisor Selection and Retention

Supervisors in various CBD projects have exhibited a range of personal characteristics and professional qualifications. This experience has not produced striking evidence of the over-riding importance of any particular factor(s). Knowledge of the jobs supervised is a pre-requisite, of course, and the opportunity for advancement of exceptionally competent agents deserves serious consideration. Technical capability should not be assessed apart from evidence of leadership and management potential, however. In particular, inflexible civil service regulations giving unwarranted weight to professional credentials can seriously inhibit program effectiveness and should be relaxed wherever possible.

Experience to date suggests that systematic appraisal of results under the varied selection criteria already being employed would be more rewarding than the mounting of special studies to test these criteria. Reference has already been made to the value in analysis of the importance of the sex of the supervisor in terms of both acceptability and ability to travel. In addition, a well-designed statistical analysis of the associations among: selection criteria; training duration, format and content; job performance; and attrition is recommended. Perhaps the most significant current research question in this area concerns the measurement

of leadership potential. Interest in this issue is by no means limited to CBD programs, however, and its complexity suggests that it be given more sophisticated attention than is feasible within a limited CBD context.

Supervisor Training

Training programs in general are deficient in their evaluation of knowledge and skills imparted in relation to actual job demands and performance. The shortcoming is especially apparent in connection with the training of supervisors, because their jobs have not been routinized and, therefore, requisite skills have not been fully established.

The aforementioned preparation of job descriptions and supervisory manuals would be of considerable value in defining training needs and in evaluating training programs. It is clear that supervisor training curricula need to be much more concrete and competency-based than has usually been the case. Moreover, programs of continuing education should be strengthened to address specific problems encountered among the varied range of individual project field activities.

The importance of project-specific, competency-based supervisory training indicates the need for the development and testing of teaching modules and case studies. The modules could serve the projects for which they were developed and in addition could be flexibly packaged for use elsewhere as appropriate.

Especially high priority should be given to training materials emphasizing the value and use of quantitative methods in supervision. In addition to its significant contribution to effective supervision, this topic exemplifies the potential for incorporating well-defined procedures and concrete examples into the curriculum, along with training in the flexible application of procedures and interpretation of results through practical case studies. The topic further

illustrates the importance of coupling pre-service training with in-service instruction in the actual field use of forms and reports.

Performance Monitoring

Supervisors must be sensitive to unpredictable inter-personal, social and political relationships and problems. Thus, the importance of leadership qualities has been stressed. This by no means negates the value of systematic, quantitative appraisal of agent performance. In fact, quantitative indicators may be significant signals of qualitative problems that deserve investigation.

The first principle in this regard is that every project should have clearly formulated service objectives, activity targets and performance indicators. Specification of unambiguous objectives facilitates purposeful team effort. Agent participation in the development of targets further contributes to teamwork and helps to operationalize the service objectives. Appraisal of performance indicators ensures that the setting of objectives and targets is more than an idle exercise and enables realistically flexible use to be made of them.

Formal monitoring should be limited to a few key indicators requiring limited data adequately controlled for quality and simple, timely reporting and analysis procedures. It follows that the indicators employed should change over time to reflect current problems and stages of project development.

Performance data should be combined and organized to yield comparable indices reflecting both current and cumulative performance. Their interpretation should be guided by statistically valid normative criteria incorporated into formal decision rules. In particular, the indicator categories and individual agents should be summarized in a matrix format that permits distinction to be made between problem tasks and problem individuals. The type of action indicated in these two

cases differs, and above all the system of performance monitoring should be aimed at decision making that is remedial and supportive, rather than punitive.

Highest research priority should be given to continued investigation of the appropriate frequency and selectivity of supervision within the context of a sound information system as outlined above. It is likely to be found that the optimal intensity of supervision is heaviest during the early phases of project implementation, gradually tapering off thereafter. This leads to a corollary research question involving the appropriate pace of implementation. Just as agent/supervisor ratios will vary from project to project according to the range of services and activities, terrain, population density, etc., it is intuitively apparent that the appropriate ratio within a particular project should depend upon project maturity. More specific guidelines are needed, however, regarding the scope of initial implementation and supervisory load, as well as the optimal pace of expansion of population coverage as routines become well-established.

Continuing Education

Continuing education and development of field personnel is a major function of supervision that deserves much more attention than has generally been given. Improved ability to teach is therefore a significant objective of supervisory training. Beyond this, a monitoring system that clearly signals training needs is essential. As suggested earlier, the system should identify individuals requiring selective supervision in contrast to areas of effort in general need of upgrading through group meetings. The recommended supervisory manuals should include specific guidelines and decision rules for making this distinction.

In this regard, research would be useful in testing: the use of the recommended matrix of performance indicators, coupled with decision rules for

remedial action; the conduct of training indicated; and the evaluation of subsequent performance.

Community and Professional Relationships

The point has already been made that effective supervision of CBD projects involves more than the traditional hierarchical employer/employee relationship. Coordination with (rather than control of) other groups in the community is also required. Experience on how best to accomplish this is limited and not very clear. Recommendations for gaining further insight on the matter have already been made in discussing organizational relationships in supervision. The issue is raised separately, however, to call attention to community participation as a relatively under-developed function of supervision.

Logistics

Inadequate transport and other impairments to supervisor mobility have been cited in some projects as serious obstacles to effective supervision. Problems in maintaining adequate supplies can be expected to become an increasing concern of supervisors as the scope of project services expands. Resources required to achieve desired levels of performance will also increase in importance as an issue with project expansion to less-receptive clients and more remote areas. These three supportive activities of supervision are therefore recommended for closer scrutiny.

The proposed actions are fundamental, e.g., calculation of travel requirements, determination of appropriate modes of transport, comparison of public and private transport alternatives, implementation of basic inventory control procedures, evaluation of commodity sources, and simplification of supply lines. The point is that, fundamental as they are, these factors cannot be ignored

and viable options vary according to local circumstances. In fact, the issues may be sufficiently important and complex in some cases to justify a small research project. To illustrate, evaluation of alternative commodity sources balancing costs against flexibility and reliability of supply, may be merited.

Questions of resource allocation are seemingly less germane than purely logistical issues, since field supervisors are unlikely to have significant responsibility for the budgeting and disbursement of funds. Performance budgeting in a more limited sense is recommended, however. For example, indicators reflecting personnel time per acceptor and the relative benefit of repeated motivation contacts can be useful.

Supervision and Evaluation of Supervisors

The motivation, monitoring and support of supervisors themselves are often neglected endeavors in need of priority attention. Virtually all that has been said about level and type of effort devoted to performance monitoring, training and other functions of the supervision of agents applies equally to the appraisal of field supervision. It is unnecessary, therefore, to add anything further under this heading. This is not to overlook its importance, however.

C. ILLUSTRATIVE SUMMARIES OF RESEARCH PROPOSALS

Among the many suggested topics for research, three have been singled out for further elaboration. The three topics have been selected because they are important in their own right and because they could produce findings that would strengthen the foundation for other investigations.

The research questions have been formulated so that each study can be conducted independently. Yet because of their inherent inter-relatedness, the separate topics should produce findings that can be combined in complementary

ways. Together, the three studies would cover a range of major issues in field supervision.

The first proposal is an analysis of supervisory functions. It would document baseline conditions and then test a functional model that includes defined performance indicators.

The second proposal focuses on the development and use of indicators as a means of providing targeted supervision for agent development and performance improvement.

The third proposal relates to the monitoring of the supervisors themselves. Whereas the first two studies are designed to improve certain mechanisms for achieving effective supervision, the third tests the importance of the motivation and monitoring of supervisors to ensure realization of the potential improvements in effectiveness.

Although the following summaries are not adequately detailed to be considered complete protocols, they contain the basic elements of protocols and are therefore intended to convey the study objectives and recommended approaches to investigation and analysis.

Analysis of Supervisory Functions

The Problem

There is concurrence in general terms on what to include among supervisory functions. There is also rough consensus that some of these functions are largely overlooked in practice, whereas others are carried out moderately well. There is relatively little concrete evidence, however, of the time required or actually devoted to specific supervisory activities or to the content and procedures appropriate to individual functions.

Research Objectives

1. To develop realistic methods for the measurement of time allocations to specified supervisory tasks.
2. To document these time allocations for a selected sample of supervisors.
3. To develop refined procedures designed to improve supervisory task performance in certain fundamental areas deemed crucial on the basis of the above documentation.
4. To test the effectiveness of the procedures.

Proposed Methods

The following summary information will be compiled on supervisors in a particular project over a three-month period: time spent at the supervisory base, in travel, and in field supervision; the number of agent contacts made at the supervisory base and in the field; and the distribution of contacts of both types by agent.

More detailed data on a sample of supervisors will be obtained over a one-month period to document the content of supervisory contacts and the time devoted to each of the tasks performed. Observations will be split between the field and the home base according to the proportion of effort found to be devoted to each aspect of supervision.

A model job description, checklist of performance indicators, and procedures manual covering selected functions considered to be in need of priority attention will be prepared. Supervisors will be trained in the use of the indicators and the conduct of the procedures. Three months after initiation of the new system, the activity data collection effort outlined above will be repeated for

purposes of comparison. Indicator measures of agent performance will be obtained throughout the study period to identify trends.

Use of Performance Indicators for Personnel Support and Development

The Problem

The need for supervision can be signaled by deficits in quantitative measures of performance and by the presence or absence of qualitative factors that are less easy to flag. Systematically derived procedures and decision rules for identifying and acting upon these signals are uncommon. Moreover, their effectiveness and optimality have not been investigated adequately.

Research Objectives

1. To develop a set of quantitative indicators of agent performance and a supervisory checklist designed to elicit qualitative problems.
2. To derive decision rules to assess and act upon indicator results.
3. To evaluate the effectiveness of the checklist, indicators and decision rules in improving agent performance.

Proposed Methods

In consultation with managers, supervisors, and agents of a particular project, a set of 6-8 key performance indicators will be established. These are likely to include such measures as: percent of target population contacted; percent of contacts who accept family planning; percent of acceptors who are re-supplied; etc. A checklist of qualitative factors to monitor will also be compiled, e.g., obstructionism on the part of the village headman.

Monthly records of indicator performance will be maintained for a period of three months. At that time an analysis of the statistical characteristics of the data will be conducted in order to develop appropriate decision rules regarding

exceptional findings. The decision rules will distinguish individual needs for selective supervision from group needs for in-service training.

Changes in performance will be evaluated after the system described has been in operation for six months. The evaluation will check for increased uniformity in agent performance (the intent of selective supervision) and for improved balance in carrying out tasks (the intent of in-service training). The system will also be examined for its ability to detect qualitative difficulties.

Motivation and Monitoring of Supervisors

The Problem

Various incentives have been applied to supervisors, but their effects have not been clearly established. Moreover, the monitoring of supervisors has tended to be sporadic and un-systematic.

Research Objectives

1. To compare the effects of monetary and non-monetary motivational stimuli on supervisor performance.
2. To test the effect of individualized monitoring of supervisors on their subsequent performance.
3. To test for interactions between the preceding two factors.

Proposed Methods

The supervisors in a particular project will be divided into three groups. The first group will receive monthly commission payments based upon performance of the agents under their supervision. The second group will receive fixed monthly compensation and will attend monthly group meetings for continuing education and motivation. The third (control) group will also be on fixed compensation but will not have monthly group meetings.

Each of the three groups will be further divided into two sub-groups. One sub-group will be counselled selectively by their superiors according to agent performance. The other sub-group will not receive selective supervision. Thus, the experimental design will consist of six cells in a 3x2 format.

Indicators of agent performance will be constructed along the lines indicated in the second research proposal above. Results for the agents under each supervisor will be aggregated monthly to obtain supervisor performance scores. Analyses will be conducted after six months of experience in order to detect differences in averages, standard deviations and trends among the six cells of the design.

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